THE LANCET.

No. 4411. Vol. CLXXIV. LONDON, SATURDAY, MARCH 14, 1908. [Pp. 120+48.

CONTENTS.

The whole of the literary matter in THE LANCET is copyright.

HUNTERIAN LECTURES on the Surgery of the Spinal Cord and its Membranes. Delivered before the Royal College of Surgeons of England By DONALD J. ARMOUR, M.B. Tor., F.R.C.S.Eng., Hunterian Professor of Surgery and Pathology; Surgeon to Belgrave Hospital for Children; Assistant Surgeon to the National Hospital for the Paralysed and Epileptic, and to the West London Hospital. Lecture II. (delivered Feb. 26, 1908) 765

ORIGINAL ARTICLES.

The Clinical Symptoms of the Cases of Epidemic Cerebro-spinal Meningitis admitted into Belvidere Fever Hospital, Glasgow, during the Recent Epidemic, together with a Short History of the Disease in Scotland. By WILLIAM DOW, M.B., Ch.B. Glasg., Senior Resident Physician to Belvidere Fever Hospital, Glasgow 768

A Remarkable Case of Persistent Ingestion of Needles and their Removal from Different Parts of the Body, especially from the Organs of the Abdominal Cavity, by Laparotomy several times repeated. By ALEXANDER NICOLL, M.D., Assistant Professor of Surgery, Fordham University Medical College, New York; Visiting Surgeon to Fordham Hospital, and Chief of the Surgical Clinic, St. Vincent's Hospital, New York.—(*Illustrated*) 772

A Study of Five Cases of Appendicostomy. By J. LIONEL STRETTON, M.R.C.S. Eng., L.R.C.P. Lond., Senior Surgeon to the Kidderminster Infirmary and Children's Hospital 778

Congenital Hypertrophic Stenosis of the Pylorus and its Medical Treatment. By GEO. CARPENTER, M.D. Lond., Chairman of Council of the Society for the Study of Disease in Children; Membre Correspondant de la Société de Pediatrie de Paris 779

A Suggestion for Treatment in Delayed Chloroform Poisoning. By A. P. BEDDARD, M.A., M.D.Cantab., F.R.C.P. Lond., Assistant Physician to Guy's Hospital; Physician to the West London Hospital ... 782

A Case of Cystic Disease of the Maxillary Antrum. By RICHARD LAKE, F.R.C.S.Eng., Surgeon to the Royal Ear Hospital, Dean-st., London, W. 783

Lymphangioplasty: A New Method for the Relief of the Brawny Arm of Breast-Cancer and for similar conditions of Lymphatic Œdema. By W. SAMPSON HANDLEY, M.S. Lond., F.R.C.S. Eng., Hunterian Professor, Royal College of Surgeons of England; Assistant Surgeon to the Middlesex Hospital, &c..... 783

Portal Obstruction without External Evidences of Portal Caval Anastomosis; its Prognostic Significance. By G. H. CHARLES LUMSDEN, M.B. Aberd. 785

Note on a Case of Compound Depressed Fracture of the Vault of the Skull; Operation and Recovery. By HANWAY R. BEALE, M.D. Lond., M.R.C.S.Eng., L.R.C.P.Lond., Surgeon to Retford Hospital.. 786

MEDICAL SOCIETIES.

ROYAL SOCIETY OF MEDICINE:
PATHOLOGICAL SECTION: Bang's Method of Glucose Estimation. — Parasites of Malaria. — Œsophagostoma Inflatum 786
OTOLOGICAL SECTION: Exhibition of Cases and Specimens 787

MEDICAL SOCIETY OF LONDON: Discussion on the Diagnosis and Treatment of Fractures of Long Bones 787

LEEDS & WEST RIDING MEDICO-CHIRURGICAL SOCIETY: Mendelism and Disease.—Exhibition of Specimens..... 788

ROYAL ACADEMY OF MEDICINE IN IRELAND: Alcohol and Mental Disease.—Exhibition of Specimens 789

LIVERPOOL MEDICAL INSTITUTION: A Method of Standardising Vaccines 790

HUNTERIAN SOCIETY: Treatment by Bacterial Vaccines 790

ÆSCULAPIAN SOCIETY: Vascular Lesions of the Nervous System 791

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY: Exhibition of Cases 791

WINDSOR AND DISTRICT MEDICAL SOCIETY: The Dangers of Delay in Performing Operations..... 791

WEST LONDON MEDICO-CHIRURGICAL SOCIETY: Exhibition of Specimens 792

REVIEWS AND NOTICES OF BOOKS.

Judicial Statistics, England and Wales, 1906. Part I., Criminal Statistics 792

Nisbet's Medical Directory, 1908 793

The Romance of Medicine. By Ronald Campbell Macfie, M.A., M.B., C.M.Aberd. 794

Diseases of the Stomach. By Dr. I. Boas. Translated by Albert Bernheim, M.D. Freiburg 794

Diagnostik der Bewegungsstörungen der Augen. By Dr. Med. E. Landolt, of Paris..... 794

The Preservation of Infant Life. By Emilia Kanthack 795

Annual Report of the Imperial Bacteriologist of India for the Year 1906-1907 795

Proceedings of the Royal Society of Medicine 796

The Journal of Physiology. Edited by J. N. Langley, Sc.D., F.R.S. 795

The Medical Chronicle 796

The Edinburgh Medical Journal 796

The Dublin Journal of Medical Science 796

The Scottish Medical and Surgical Journal 796

St. Thomas's Hospital Gazette.. 796

St. George's Hospital Gazette ... 796

Guy's Hospital Gazette 796

London Hospital Gazette 796

NEW INVENTIONS.

A Cystoscope Brush.—(*Illustrated*) 797

Timemarker Attachment for Dudgeon's Sphygmograph.—(*Illustrated*) 797

LOOKING BACK.
(From THE LANCET, Saturday, March 13th, 1830.)

Medical Arrangements for the New Police 797

LEADING ARTICLES.

PURE CHEMISTRY AND MEDICINE 798

THE SUPPLY OF MIDWIVES 799

IDIOSYNCRASIES..... 800

ANNOTATIONS.

The late Imperial Bacteriologist to the Government of India... 801

Modern Dairy Practice 801

The Health of Mr. Chamberlain 802

The Varieties of Tuberculin..... 802

The Fumes of the Match 802

February at Home and Abroad.. 803

Ophthalmology at Oxford..... 803

Young Smokers..... 803

Protected Vermin..... 804

The Hampstead General Hospital: Election of Medical Staff 804

Displacement of the Larynx in Aneurysm of the Arch of the Aorta..... 804

King Edward's Hospital Fund for London 805

The Treatment of Chloasma, Freckles, and other Pigmentations by Scarification and Application of Oxygenated Water 805

The Localisation of Arsenic in the Body 805

The Incompatibilities of Organic Salts of Silver 805

VITAL STATISTICS:
Health of English Towns 809
Health of Scotch Towns..... 809
Health of Dublin 810

SPECIAL ARTICLES.

Sanitary Reform in India.—III. 806

The British Medical Benevolent Fund 807

The London and Counties Medical Protection Society and the Midwives Question 807

The City of Glasgow Fever Hospital at Ruchill 808

Medicine and the Law: An Offence under the Lunacy Act, 1890; What is Vinegar? a Case of Cocaine Poisoning... 809

The Services 810

Liverpool..... 815

Leeds..... 816

Scotland 816

Ireland 817

Paris..... 817

Berlin 818

Budapest..... 818

Notes from India 819

Notes from China..... 820

Australia..... 821

CORRESPONDENCE.

The Parathyroid Glands (Mr. Walter Edmunds)..... 811

The Blood Condition in Egg Poisoning (Dr. R. Hingston Fox) 811

Delayed Chloroform Poisoning? (Mr. Rowland W. Collum)..... 812

Open Windows and Adenoids (Mr. T. Jefferson Faulder)..... 812

The Stream Hill Sanatorium Site (Mr. Langley Brasier-Creagh)..... 812

The Hall-Edwards Fund (Dr. Robert M. Simon, Mr. J. C. Vaudrey) 813

The Present Prospects of the Medical Profession (Dr. F. W. Forbes-Ross) 813

"The Case for the Goat" 814

A Coincidence of Invention (Mr. Hughes R. Davies)..... 830

OBITUARY.

Reginald Harrison, F.R.C.S. Eng. 822

Edward Dillon Mapother, M.D. R.U.I., F.R.C.S.Irel. 823

MEDICAL NEWS.

Medical Inspection of School Children 768

Metropolitan Convalescent Institution 810

Pass-list of Trinity College, Dublin 824

Foreign University Intelligence 824

Medical Society of London 824

Sussex County Hospital 824

Association of Certificated Dispensers 824

Donations and Bequests..... 825

Health and Sanitation of St. Vincent 825

Marylebone Health Society..... 825

Heredity and Moral Responsibility 825

PARLIAMENTARY INTELLIGENCE.

Notes on Current Topics 825

House of Lords 826

House of Commons..... 826

Appointments 828

Vacancies..... 828

Births, Marriages, and Deaths... 829

Notes, Short Comments, and Answers to Correspondents... 829

Medical Diary 830

Acknowledgments of Communications..... 832

FOR INDEX TO ADVERTISEMENTS SEE PAGES 2 & 4.

INDEX.

MEDICAL AND OTHER BOOKS AND PUBLICATIONS.

COVER.

PAGE

BAILLIERE, TINDALL, & COX:—
Campbell.... Treatment..... 1

BALE, SONS, & DANIELSSON:—
Folia Therapeutica 1
Hood..... Clinical Aspects of Pneumonia..... 1
Moullin .... Inflammation of the Appendix..... 1
" .... Treatment of Gastric Ulcer..... 1

CASSELL & CO.:—
Luff ..... Gout..... 1

CHURCHILL, J. & A.:—
Bigg ..... Spinal Curvatures..... 1
Parsons .... Diseases of the Eye 1
Pavy..... On Carbohydrate Metabolism 1
The Latest Book on Operative Surgery 1

CORNISH BROS.—
Suckling .... Movable Kidney 1
" .... Insanity..... 1

GLAISHER:—
Herschell .. Constipation..... 1

LEWIS:—
Moullin .... Enlargement of the Prostate 1
" .... Inflammation of the Bladder..... 1

LONGMANS, GREEN & CO.:—
Hare ..... Food Factor in Disease 1

MEDICAL PUBLISHING CO.:—
Lane ..... Cleft Palate and Hare Lip..... 1
" ..... Treatment of Fractures 1
" ..... Chronic Constipation .. 1

SAUNDERS COMPANY:—
Saunders' Books 1

MEDICAL LIBRARIES, &c.:—
The Prescriber..... 1

BAILLIERE, TINDALL & COX:—
Ball ..... Diseases of the Nose, &c. 9
Bigg ..... Cancer..... 10
Blumfeld.... Anæsthetics..... 9
Eccles ..... Hernia..... 9
" ..... Imperfectly Descended Testis..... 9

BAILLIERE—(Continued).
Freyer ..... Enlargement of the Prostate 9
Giles ..... Gynæcological Diagnosis 9
Harman .... Preventable Blindness 9
Lake ..... Diseases of the Ear 9
Lamb ..... Examination of the Throat, Nose, and Ear 9
Leedham-Green .... Gonorrhœa in the Male 9
" .... Sterilisation of Hands.. 9
Mummery .. The Sigmoidoscope 9
Paterson .... Gastric Surgery 9
Thorne..... Nauheim Treatment of Heart Disease 9

BALE, SONS, & DANIELSSON:—
Pearson .... Modern Surgical Technique..... 12

BRYCE:—
Kocher..... Text-book of Operative Surgery 11

CASSELL & CO.:—
Herman .... Diseases of Women 12
Morris, R. .. Surgery of the Kidney and Ureter 10
" .. Injuries and Diseases of Genital, &c., Organs .. 10

CHURCHILL, J. & A.:—
Andrewes .. Lessons on Disinfection 7
Box & Eccles .... Clinical Applied Anatomy 7
Bundy ..... Text-book of Anatomy for Nurses 7
Butlin ..... Malignant Disease..... 12
Clouston .... Mental Diseases 7
Coles ..... The Blood 7
" ..... Bacteriology, &c. 7
Corbin & Stewart .. Physics and Chemistry 7
Craig..... Psychological Medicine 7
Cripps ..... Cancer of the Rectum .. 12
" ..... Diseases of the Rectum 12
Cuff ..... Medicine to Nurses 7
Cullingworth Manual for Monthly Nurses 7
Domville.... Manual for Hospital Nurses 7
Fenwick, E. H. .... Clinical Cystoscopy 7
" .... Ureteric Meatoscopy .. 7
" .... Operative, &c., Tumours 7
" .... Ulceration of the Bladder 7
" .... Tumours of the Bladder 7
" .... Urinary Diseases 7
" .... Electric Cystoscopy 7

CHURCHILL—(Continued).
Hadley..... Nursing 7
Haig ..... Uric Acid 7
Jacobson & Rowlands.. Operations of Surgery 5
Jellett ..... Midwifery for Nurses .. 7
Lazarus-Barlow.... General Pathology 7
" .... Pathological Anatomy 7
Mayne's Short Dictionary of Medical Terms 7
Schofield.... Management of a Nerve Patient..... 7
Taylor & Smith .... Medical Jurisprudence 7
Thorne..... Schott Methods of Treatment 7
Wiley ..... Foods and Adulteration 7

GLAISHER:—
West..... Granular Kidney, &c.... 12

LEWIS:—
Barton ..... Guide to the Administration of Ethyl Chloride 48
Beaumont .. Injuries of the Eyes 48
Buxton..... Anæsthetics 48
Emery ..... Clinical Bacteriology .. 48
Jones..... Medical Electricity 48
Lewers..... Diseases of Women 11
" ..... Cancer of the Uterus .. 11
Martindale & Westcott .. Extra Pharmacopœia .. 11
Parkes & Kenwood.. Hygiene and Public Health 48
Powell, Sir R. D..... Diseases and Disorders of the Heart 48
Shuttleworth Mentally - Deficient Children 48
Swanzy & Werner.... Diseases of the Eye 48
Tilley ..... Diseases of the Nose and Throat 48
White ..... Catarrhal Fevers 4

LONGMANS, GREEN & CO.:—
Goodsall & Miles .... Diseases of the Anus and Rectum 10

MACMILLAN & CO.:—
Bruce ..... Studies in Clinical Psychiatry 6
Brunton, Sir L. .... Papers on Circulation .. 8
" .... Disorders of Digestion.. 6
" .... Practical Medicine 6
" .... Action of Medicines 6

MACMILLAN—(Continued).
Brunton .... Assimilation, &c. 6
" .... Materia Medica 6
Confessio Medici..... 6
Hewitt ..... Anæsthetics and their Administration 6
Hood..... Treatment of Injuries.. 6
Lockwood .. Appendicitis..... 6
Manual of Medicine 6
New System of Medicine..... 6
Parker..... Comparative Anatomy of Vertebrates 6
Shield ..... Diseases of the Breast.. 6
Smith ..... Introduction to the Outlines 6
System of Gynæcology..... 6
Wertheim & Micholitsch Vagino-Peritoneal Operations 6

REBMAN:—
Forel..... Hypnotism 6
McKenzie .. Diseases of the Throat, Nose, and Ear 6
Stewart .... Manual of Surgery 6
Tibbles..... Food and Hygiene..... 6
Tozer ..... Irony of Marriage..... 6

RENSHAW:—
Dictionary of Treatment..... 10
Whitla..... Practice and Theory of Medicine 10
" ..... Pharmacy, &c. 10
Wood ..... Application of Trusses 10

SAUNDERS COMPANY:—
Kerley ..... Treatment of Children's Diseases 5
Kerr ..... Diagnostics of Children's Diseases 5
Robson & Cammidge. On the Pancreas..... 5

SMITH, ELDER & CO.:—
Keetley .... Orthopædic Surgery... 10
" .... Gastric Ulcers 10
" .... Complicated Fractures 10
St. Bartholomew's Hospital Reports.. 10

WRIGHT & CO. (BRISTOL):—
Medical Annual, 1908 8

MEDICAL LIBRARIES, &c.:—
Baker—Bargains in Books 12
Bazaar, Exchange & Mart 12
Behnke—Stammering 12
Lewis's Medical and Scientific Library 11
Seymour—How to Speak Effectively.. 12
"Truth" Cautionary List 12

OFFICIAL AND GENERAL ANNOUNCEMENTS.

APPOINTMENTS VACANT:—
Borough of Ipswich 85
Borough of Merthyr Tydfil 85
Borough of Worthing, &c., Combined Sanitary District..... 88
Bradford Royal Infirmary..... 84
Bucks County Council 84
Bucks County Council Education Committee 84
Canterbury Borough Asylum 84
Cardiff Infirmary 85
Carnarvonshire and Anglesey Infirmary, Bangor 84
Carnegie Dunfermline Trustees 88
Chorlton-upon-Medlock Dispensary, Manchester 88
City of Carlisle..... 85
City of London Hospital for Diseases of the Chest 84
Corporation of Bury 87
County Analyst, Worcester 84
Coventry and Warwickshire Hospital 85
Devon County Asylum, Exminster.... 86
Dr. Lambert, Liverpool 84
Dumfries and Galloway Royal Infirmary..... 84
Eccles and Patricroft Hospital 84
Eyelina Hospital for Sick Children .. 87
Great Northern Central Hospital 88
Hampstead General Hospital 85
Hospital for Epilepsy and Paralysis, &c., Maida-vale 87
Hospital for Sick Children, Great Ormond-street 87
Ingham Infirmary, &c., South Shields 84
Jaffray Branch of the General Hos., Birmingham 85
Kent County Council 87
Leicester Infirmary 87
Lincoln Union 87
Liverpool Dispensaries 88
Lowestoft Hospital 85
Macclesfield General Infirmary 87
Mountain Ash U.D. Education Committee 85
National Hospital for the Paralysed, &c., Bloomsbury..... 87
Newcastle-upon-Tyne Dispensary 86
New Hospital for Women, Euston-road 88
North Riding Infirmary, Middlesbrough..... 84
No. 405, L.G. Strand..... 86
Queen's Hospital, Birmingham 86
Rotherham Hospital and Dispensary 86

APPOINTMENTS—(Continued).
Royal Free Hospital, Gray's Inn-road 86
Royal National Orthopædic Hospital 85
Royal National Sanatorium for Consumption, Bournemouth..... 88
Royal South Hants and Southampton Hospital 87
South Devon and East Cornwall Hospital, Plymouth 84
Staffordshire General Infirmary, Stafford 87
St. Mary's Hospital, Paddington..... 85
Stockton-on-Tees Education Committee 86
Taunton and Somerset Hospital..... 88
Torbay Hospital, Torquay 84
Torquay Education Authority..... 87
University of Manchester 86
Urban District of Finchley 85
Victoria Central Hospital, Liscard.... 86
Warneford, Leamington, &c., Hospital 86
West Bromwich District Hospital 87
West Kent General Hos., Maidstone.. 84
West London Hospital and College, Hammersmith-road 84
Westminster General Dispensary 85
Worcester Education Committee..... 86
W. P., Gracechurch-street 88

ASSISTANCIES, MEDICAL 94

ASYLUMS, HOMES, &c.:—
Ashwood House, Kingswinford 83
Bailbrook House, Bath 77
Barnsley Hall, Bromsgrove 77
Barnwood House Hospital 76
Bethel Hospital for Mental Diseases .. 83
Bishopstone House, Bedford..... 83
Blackheath Invalid Home..... 85
Bogie, Bordighera 84
Buntingford House Retreat, Buntingford 81
Camberwell House, Peckham-road..... 77
Cheadle Royal 77
Clarence Lodge, Clapham-park 85
Coppice, The, Nottingham 78
Cotswold Sanatorium 82
Crooksbury Sanatorium, Surrey 80
C., Winchmore Hill 84
Dadson Nursing Homes 83
Dairymple House, Rickmansworth .. 80
David Lewis Colony, Alderley Edge .. 85
Dingdale Park, near Darlington 83
East Anglian Sanatorium, Nayland .. 81
Eleonoren Hospiz, Bad Nauheim 85

ASYLUMS—(Continued).
Fairford Retreat, Gloucestershire 77
Flower House, Catford..... 78
Ghyll Retreat, Cockermouth 81
Grove House, Church Stretton 78
Grove, The, Catton, Norwich 78
Hartington Nursing and Convalescent Home, Bournemouth 83
Haydock Lodge, Newton-le-Willows 79
Heigham Hall, Norwich 77
Hitch, Mrs., Hollington 78
Home for Epileptics, Maghull 85
Hon. Secretary, Outer Temple 84
Invernith Lodge Retreat, Colmsburgh 79
Kingsdown House, Box 85
Lady Superintendent, Streatham..... 85
Lawson, Nordrach-on-Dee, Banchory 80
Leigh House, Warwick 77
London Fever Hospital, Islington 77
London Open Air Sanatorium, Wokingham 80
Mailing-place, Kent 77
Manor Valley Sanatorium, Poolbiershire 85
Melbourne House, Leicester 78
Middleton Hall, Co. Durham..... 77
Moat House, Tamworth 78
Newmains Retreat, Lanarkshire..... 79
Nordrach in Wales Sanatorium 80
Nordrach-upon-Mendip Sanatorium .. 81
Northumberland House, Finsbury-pk. 80
Northwoods House, Winterbourne.... 79
Norwood Sanatorium 81
No. 116, L.O., Strand..... 85
No. 414, L.O., Strand..... 95
No. 575, L.O., Strand..... 84
Painswick Sanatorium..... 82
Peckham House, Peckham-road 79
Physician, Wimbledon..... 83
Plas-yn-Dinas, Merionethshire..... 79
Plympton House, South Devon 78
Sling wood & Inge, Haslemere 85
Sanatorium Clavadel..... 82
Springfield House Private Asylum, Bedford 78
Stafford House, Teignmouth..... 85
St. Andrew's Hospital, Northampton 78
St. Luke's Hospital, E.C..... 83
Stocker, Craven-street 85
Stretton House, Church Stretton 76
Tower House, Leicester 78
Vale of Clwyd Sanatorium..... 81
Warneford Asylum, Oxford 77
Whitmead Hill Sanatorium, Farnham 82
Wonford House, Exeter 78

ASYLUMS—(Continued).
Wye House, Buxton 78
Yarrow Convalescent Home, Broadstairs..... 79

FINANCIAL, &c.:—
Birkbeck Bank..... 75
Equitable Reversionary Interest Soc. 75

HEALTH RESORTS, BATHS, &c.:—
Aberystwyth, the Biarritz of Wales .. 82
Leysin, Switzerland 82
Smedley's, Matlock 82
St. James's Electric, Light, and Pine Baths 82

HOMES WANTED:—
No. 415, L.O., Strand..... 95

HOTELS:—
Barton Court Hotel, New Milton 83

HOUSE & ESTATE AGENTS:—
Bedford & Co., Wigmore-street 81
Elliott, Son & Boyton, Vere-street.... 85
H., Bournemouth 85
No. 401, L.O., Strand..... 86
No. 405, L.O., Strand..... 86
Owner, East Finchley 85
Owner, East Sheen 85
Shackleton, Abergavenny 83
Stevenson, Manchester..... 82
1, Wimpole-street, W.— Consulting-rooms:— Elliott, Son & Boyton, Vere-street.... 85
Medicus, Piccadilly 85
Street, Portman-street..... 85

LIFE & FIRE ASSURANCES:—
General Life Assurance Co. 75
National Provident Institution 75
Prudential 75

MEDICAL ACCOUNTANTS, &c.:—
Turner..... 84

MEDICAL AGENTS:—
Aked & Aked 86
Fieldhall, Limited 86
Manchester Medical Agency 86
Manchester Medical Association 86
Medical Agency 86
Needes, Herbert 86
Needes, J. C. 86
Peacock & Hadley 86

(For continuation of Index to Official and General Announcements, and Trade and Miscellaneous Advertisements, see page 4.)

The Hunterian Lectures

ON

THE SURGERY OF THE SPINAL CORD AND ITS MEMBRANES.

Delivered before the Royal College of Surgeons of England

BY DONALD J. ARMOUR, M.B. TOR., F.R.C.S. ENG.,

HUNTERIAN PROFESSOR OF SURGERY AND PATHOLOGY; SURGEON TO BELGRAVE HOSPITAL FOR CHILDREN; ASSISTANT SURGEON TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, AND TO THE WEST LONDON HOSPITAL.

LECTURE II.[1]

Delivered on Feb. 26th, 1908.

FRACTURE-DISLOCATION OF THE SPINE.

MR. PRESIDENT, LADIES, AND GENTLEMEN,—In to-day's lecture I propose to deal with the subject of injuries to the vertebral column in so far as they have to do with the main subject-matter of my lectures—viz., the surgery of the spinal cord and its membranes. It will be useful to review briefly the various injuries to which the bones and ligamentous structures surrounding the spinal cord are liable in order to appreciate the nature of the resulting lesion in the spinal cord itself. For this purpose I will follow, with some slight modifications, the classification laid down by Kocher, which I have had placed upon the wall above me.

Classification of Injuries to the Vertebral Column.

I. Partial injuries:
1. Distortion.
2. Single dislocation of the lateral joint (dislocation by abduction or rotation of Hueter).
3. Bilateral dislocation (dislocation by flexion of Koenig).
4. Isolated fractures of the vertebral column (pressure-fractures).
5. Isolated fractures of the arches, spinous processes, and transverse processes.

II. Complete dislocation with fractures:
6. Complete dislocation (dislocation of the lateral joints and displacement in the region of the intervertebral disc).
7. Dislocations with fractures due to pressure (dislocation of one or both lateral joints and pressure-fracture of the vertebral body).
8. Complete dislocation with fracture, dislocations with diagonal fractures (dislocation of the lateral joints and dislocation in the region of the fractured vertebræ).

A brief consideration of the various forms of injury and the methods in which the cord is injured is all that time will allow of. In distortion or diastasis limited practically to the cervical region the displacement is slight or wanting. The ligaments are stretched or ruptured by hyperextension or hyperflexion of the column. Symptoms due to cord injury are occasionally seen. The cord is not crushed, but the over-action has been followed by fatal hæmorrhage into the cord (hæmatomyelia). In fact, this form of injury is said to be the commonest cause of hæmatomyelia, occurring, as it does most commonly, in the region of the fifth and sixth cervical vertebræ. In single dislocation of the lateral joint—unilateral dislocation forward—cord symptoms are not commonly present and if present are usually slight. It should be remembered, however, that symptoms pointing to involvement of the spinal cord may appear some time after the injury. Kocher reports a case in which a month's interval elapsed before the cord symptoms appeared. However, the danger of injury to the cord is less in unilateral (i.e., those by abduction and rotation) than in bilateral dislocations. Hæmatomyelia may result also from unilateral dislocation. Though cord symptoms are uncommon those due to injury or pressure upon the nerves passing through the affected intervertebral foramina are common. They consist of radiating pains in the region supplied by the affected nerves. Isolated bilateral dislocations do occur, but practically the intervertebral disc is always ruptured or else the vertebral body is fractured. However, in rare cases so slight has the forward displacement been that the spinal cord has escaped injury. More commonly the lumen of the vertebral canal is narrowed. The spinal cord then suffers any degree of injury between compression and complete rupture. It results from the cord being forced against the upper edge of the body of the lower vertebra. The meninges may be partially or completely torn, with extravasation of blood both outside and inside the theca. It is said that the spinal cord may also be injured by direct elongation as a result of bilateral dislocation. Hæmatomyelia, alone or associated with the injuries described, may occur. It would appear that the cord is in greatest danger of injury when the lower cervical vertebræ, the fifth, and especially sixth, are the seat of the dislocation, though it may escape even here.

Blasius thus summarises the subject of injury to the spinal cord in dislocations of the vertebræ. In no form of dislocation is injury to the spinal cord a necessary consequence. Such injury is less to be expected in unilateral dislocation, and in unilateral dislocation forward of the cervical vertebræ it is always, or almost always, only a simple compression without crushing. In bilateral dislocation backward or forward the cord is exposed to more serious lesions and seldom escapes entirely uninjured. When the displacement is forward the cord is mechanically affected in most cases, but the cases of severe injury are fewer than those in which all injury is escaped. Finally, the danger is least in bilateral dislocation in opposite directions.

In attempting to reduce a unilateral dislocation by reducing one joint and then the other, as advocated by Hueter, injury to the cord may result. Pressure-fractures occur most frequently at the dorso-lumbar junction. The bodies of one or more vertebræ are compressed, especially in their anterior halves. Fragments may be separated at the upper anterior edge of the body (anterior wedge fragments) or driven back into the vertebral canal (posterior wedge fragments). Occasionally an intervertebral disc may be ruptured without pressure-fracture of the bone. Illustration of such cases will be thrown on the screen presently. The cord may now and then completely escape injury. When affected the injuries are brought about in various ways. The severest are produced by a posterior wedge fragment dislocated into the vertebral canal, causing more or less extensive contusion of the cord. The lesion may be a total transverse one, or more rarely a unilateral one. It may be accompanied by hæmatomyelia. Root pains, due to pressure upon the nerves in the constricted intervertebral foramina, may be present. Cord symptoms may arise later, due to an insufficient length of time given to treatment, to pressure from callus, or to inflammatory changes in the meninges. Callus is particularly prone to produce pressure symptoms because the fracture heals purely by periosteal bone formation, and so diminishes the vertebral canal space. Isolated fracture of a spinous process may result in injury to the cord by the fracturing force driving the fragment between two vertebræ into the cord. Injury to the cord is more likely to follow upon fracture of an arch, especially when the fragment is completely mobilised.

Complete dislocations with fracture are characterised by an interruption in the continuity of the anterior column formed by the bodies in front, and of the posterior articular column behind. The spinal cord is almost always damaged and often completely destroyed by being carried forward and pressed against the upper edge of the lower vertebra. The liability of the cord to injury is greatest in dislocations with diagonal fractures, in which the dura mater is torn through. The chances of partial injury are more favourable in dislocation pressure-fractures. The cord is carried forward and crushed between the arch of the dislocated vertebra above and the lower fragment of the fractured body below. It is important to remember that the amount of dislocation present at the time of injury may be largely reduced when the fracturing force ceases to act. The necropsy may show an approximately normal vertebral canal with a complete transverse lesion of the spinal cord.

Complete dislocation, with fracture of the upper two cervical vertebræ, is not always immediately fatal, and therefore of practical interest. The relatively large size of the vertebral canal in the cervical region, and especially opposite the upper two vertebræ, accounts for this escape of the spinal cord. A considerable diminution in the size of the canal may occur before pressure symptoms develop. This is in distinct contrast to the dorsal region of the column.

It will thus be seen that the cord may suffer injury, due to compression, contusion, laceration, or complete division. On external examination the cord may show nothing of the extensive injury it has suffered, this only being apparent

[1] Lecture I. was published in THE LANCET of March 7th, 1908, p. 693.

on section. Thus its appearance at operation is not always conclusive. When examined in cross sections it shows a varied disarrangement of its internal structure, fissures, hæmorrhages, and dislocation of the grey matter being frequent. Later the dura mater becomes bound down to the cord by adhesions which also form between the dura mater and the bony canal. The cord appears smaller than normal, perhaps one-third of its original size. It is also well recognised that injury to the spinal cord without detectable injury, even at necropsy, to the vertebral column may occur and is not rare. The usual symptoms are said to be due to hæmatomyelia, though Spiller also describes a condition which he calls traumatic myelitis. This is characterised by nerve cell and fibre degeneration, round cell infiltration, proliferation of neuroglia, congestion of blood-vessels, and miliary hæmorrhages. It is, however, impossible to diagnose clinically between these two conditions.

Frequency.—In one-third of the lesions affecting the vertebral column the spinal cord escapes all injury. This freedom from injury is seen most frequently in the cervical region for reasons already given. Children more often escape injury to their cords than do adults. The cervical and lumbar regions contain about one-half of the cases of fracture, the dorsal region the other half. Most of the dorsal fracture dislocations involve the eleventh or twelfth vertebra, this giving rise to a lumbar type of paralysis. Neurologically considered, the majority of cases of injury to the spinal cord from fracture-dislocations are either the cervical type, which includes the first dorsal segment, or the lumbo-sacral type, including the cauda equina. Surgical statistics show the latter to be much more frequent.

Clinical types.—From a clinical point of view of cases injury to the vertebral column may be divided into two main classes: (1) those in which the functions of the spinal cord are not interfered with; and (2) those in which there is more or less interference with the functions of the spinal cord, with or without obvious injury to the vertebral column. So that the first question to be decided when investigating cases of injury in this region is: Is the spinal cord affected? And if so, to what extent is it damaged? The first question can usually be answered without difficulty. The second not so, because it opens up the subject, to be discussed later, as to whether it can be definitely decided that the symptoms present are due to a total or partial transverse lesion.

Three types of cases may, I think, be recognised clinically: (1) those in which it is perfectly clear from the position of the fractured vertebræ that the cord must be completely severed; (2) those in which it cannot be decided definitely without waiting for some time whether the lesion is complete or partial; and (3) those in which it can be definitely stated that the lesion is a partial one. In the first class are included those cases in which the displacement is so great that the inferior surface of the body of the dislocated vertebra lies upon the anterior surface of the body of the vertebra next below it. It is obvious that when the bones are forced into this position the spinal cord must have been cut completely across. The position of the fragments in these cases can only be definitely determined by a skiagram, though the deformity is always greater than in other cases. The second class includes the largest number of cases. They are such that only by their persistence can the symptoms be said to be due to a total transverse lesion. The third class are those in which the symptoms point undoubtedly to a partial transverse lesion. They are chiefly seen in distortions, unilateral dislocations, isolated fractures of spinous processes or arches, and pressure fractures of the vertebral bodies.

Diagnosis between partial and total transverse lesions.—Is it ever possible to decide definitely from a study of the symptoms in cases of fracture-dislocation of the spine that the lesion in the spinal cord is complete? Or, in other words, is there any symptom-complex which establishes beyond a doubt that the injury to the cord is irremediable? It may at once be said that there is not. It is only by their persistence over a considerable length of time that the symptoms can establish the fact that the spinal cord lesion is a complete one. Certain symptoms, to which the unfortunate term "classical" has been applied, have been stated to denote always that the lesion is a complete one. Let me repeat that it is only by their persistence that they can do so. Their onset certainly does not preclude the possibility of the functions of the cord being restored, if not wholly, at any rate to a certain degree at least. What are these so-called classical symptoms that are usually held to point to a complete transverse lesion?

It will be well before answering this question to refer to those symptoms which undoubtedly indicate a partial lesion. These include any motor power below the lesion, any sensation, such as pain, numbness, cramps, of distension of the bladder and rectum, abdominal pain, or any sense of position. Pain felt in the hyperæsthetic zone upon severe irritation of the paralysed parts, even in the presence of total anæsthesia, determines that the lesion is a partial one. The deep reflexes may be abolished at the outset in partial lesions, to return later, and even become exaggerated. Return of the deep reflexes at any time decides that the lesion has been a partial one. Incomplete or limited anæsthesia, or anæsthesia of unilateral distribution, anæsthesia limited to regions far below the level of the lesion, and modification of the anæsthesia at different levels, all point to a partial lesion. In partial lesions sensation in the bladder and rectum may be retained, even though voluntary evacuation is impossible. Slow onset of paralysis or any sign of improvement points to a partial lesion. It may be said that symptoms referable to vasomotor disturbances are variable and confusing. Usually corresponding in extent to the motor paralysis, there is paralysis of vaso-constrictor fibres. This causes a rise in the superficial temperature of the lower extremities, due to dilatation of the subcutaneous vessels. Later this is replaced by coolness, or even marked coldness, of the extremities.

Turning now to a consideration of the symptoms which are said to indicate a total transverse lesion, these include total paralysis of motion and sensation, the anæsthesia being abruptly delimited, and surmounted by an area of hyperæsthesia. According to Kocher, below the hyperæsthetic area there often appears a strip of thermanæsthesia and analgesia, though this dissociation is not necessarily limited to the level of the lesion. Total loss of deep reflexes, priaprism, and paralysis of the bladder and rectum make up the picture as usually described of a total transverse lesion. As a result of a total transverse lesion the voluntary muscles below the lesion are all equally affected. They become flaccid, waste rapidly, and their faradic excitability lessens, rapidly at first, then more slowly, and, finally, it may be lost. The deep reflexes are permanently abolished and the sphincters lose their tone.

A differentiation should be made between an anatomical and a physiological total transverse lesion. For complete physiological abolition of function may occur without actual destruction of the nerve elements involved, and these may recover more or less completely. "When there is recovery from a total physiological transverse lesion the first sign of that recovery is the return of the knee-jerk and the gradual change from the flaccid to the spastic stage. Sensibility returns in the order, touch, pain, temperature, and the lowest sacral segments usually become sentient before the others. The first sign of this often is that the patient becomes conscious of the act of micturition or of catheterisation or of distension of the bladder during the routine lavage. Voluntary power returns in the flexors earlier than in the extensors, flexion of the toes being almost invariably the earliest voluntary movement possible. In cases where recovery is complete the plantar reflex does not resume the flexor type for some time after the patient has completely recovered the use of the lower limbs, the extensor response being the last of all the spastic signs to disappear." (James Collier.)

Complete motor paralysis and anæsthesia do not prove that the lesion is a total one, since recovery may follow their onset in pressure lesions. Though the knee-jerks be abolished at first they may return after a lapse of time, so that there absence denotes nothing in favour of a complete lesion. Priapism is not so frequent a symptom as would appear from text-books. Collier met with it in his series of cases only in connexion with partial lesions. He thinks that its presence signifies that the lesion is partial. None of these symptoms alone, nor all of them together, can be held to be pathognomonic of a total transverse lesion. Only their *persistence*, without variation, can be said to be so. And this persistence must last for some considerable time before a definite conclusion can be arrived at.

Regeneration.—The question of regeneration is a most important one in spinal cord pathology. It has been the opinion of most investigators that such regeneration in man does not take place. The report of the Stewart-Harte case, together with one by Fowler, has recently reopened the whole controversy. Both were cases in which suturing of the spinal cord, completely severed by a pistol bullet, was followed by a reported remarkable degree of recovery.

In the first case the ends of the cord were three-fourths of an inch apart (two centimetres). Working upon the subject of regeneration Marinesco and Minea have described the appearances found in the cords of dogs examined at periods varying from 1 to 15 weeks after section, and also in two cases of compression of the spinal cord in man. The conditions found were very similar in both the experimental and the pathological conditions. New formation of nerve fibres occurred, as described both by the authors and by Cajal, in peripheral nerves—namely, progressive growth of old fibres, and multiplication by successive dicrotomy of fibres of new formation. Growth occurred from both upper and lower ends, but seemed to be more prolific from the posterior roots upwards than from above downwards. The new fibres were of varying calibre. Some were myelinated, but most were not. They ended in cones of growth of spherical terminal masses and frequently had fusiform swellings in their course. Cells which are termed "apotrophics" played a somewhat important rôle here, as they do in peripheral nerve regeneration. These are fusiform cells, which were found in the tissue between the divided ends a few days after section, with a fusiform nucleus, and rich in chromatin granules. Sometimes they were elongated, with several nuclei, and were described as protoplasmic bands. They had chemiotaxic properties, by which the young axons were attracted, often actually drawn into their interior and nourished. The new nerve fibres extended by growing along these bands of apotrophic cells, and also by following the lines of the new vessels forming a sort of perivascular reticulum. The course of the fibres was very irregular. Many actually doubled back on themselves and few succeeded in crossing the cicatrix, so that in spite of the apparent double cord and root regeneration there was no functional regeneration. In order to accomplish this it would be necessary for the proper neurons to become connected up as before, an event which, in the opinion of these investigators, can only occur, if at all, with extreme rarity.

Fickler, experimenting upon the changes found in the spinal cord after contusions of various degrees, reports finding evidences of regeneration. This occurred only in the nerve fibres, never in the ganglion cells. If the ganglion cells controlling the nerve fibres were destroyed by pressure or by any other cause regeneration did not occur. The commonest source from which regeneration proceeded was the spinal ganglion nearest to the focal lesion. His experiments seem to indicate that regeneration only occurs in sensory fibres from the spinal ganglia and in the fibres uniting various segments of the spinal cord. Consequently, the number of fibres capable of regeneration is not very large. When these regenerated fibres reached the grey substance they travelled upward for a considerable distance and even came into relation with the dendritic processes of the ganglion cells of the grey substance. According to Fickler the fibres of Clarke's column do not appear to be capable of reaching the central neurons. He concludes that the functional result attained by such regeneration is probably insignificant.

Pierce Clark, after a searching analysis of all the facts, submits the following as conclusions in answer to the query as to whether the tracts of the nervous system regenerate. 1. Animal experiments fail to provide conclusive data that central tracts of the nervous system ever regenerate, so that the former function is restored. In warm-blooded animals, and in the human species in particular, an abortive attempt on the part of the cord to regenerate is largely, if not solely, confined to fibres of undoubted peripheral type. 2. Histological analysis of cases of hemi-section, compression paraplegia and myelitis, and similar destructive lesions of the cord, fails to show positive evidence that actual structural regeneration of axis cylinders ever occurs in the central nerve tracts of the human spinal cord. In a case of complete division of the brain and spinal tracts there is simple degeneration, followed by sclerosis. 3. A most acceptable reason for non-regeneration of such tracts is shown in that the compressed nerve fibres do not possess a neurilemma sheath from which the nerve regeneration mainly, if not solely, occurs. This lack in cord and brain tracts, in contrast to the regenerating peripheral nerves, is due possibly to a difference of embryological origin of these two structures of the nervous system.

Dr. Gordon M. Holmes, director of the research laboratories at the National Hospital for the Paralysed and Epileptic, has kindly placed at my disposal the results of his researches on the subject. He says:—"The evidence against the opinion that regeneration of completely interrupted fibres of the *central* nervous system may occur is threefold: 1. There are no satisfactory or conclusive observations that *central* fibres do regenerate. 2. When a central tract degenerates its place is soon occupied by such dense sclerotic tissue that it is scarcely credible that such delicate structures as regenerating axis cylinders should be able to find their way through it. On the other hand, such cells as the proliferated neurilemmal elements of a secondarily degenerated peripheral neuron, which it is generally assumed possess a chemiotactic attraction for the regenerating axis cylinder, do not exist in the central nervous system. 3. There is definite evidence, for a considerable number of systems at least, that when a central fibre is interrupted its cell of origin soon undergoes complete atrophy and disappears."

The clinical evidence, when analysed, in support of regeneration occurring in the spinal cord is even less convincing than the experimental. That recovery of function after total loss does occur may be explained in several ways. This loss may be due to pressure or œdema, producing physiological abrogation of function without necessarily destroying the nerve elements completely. On removal of the compression the fibres recover their powers of conductivity. Or the function of fibres actually destroyed may be taken over by other fibres which have escaped. This would appear to take place in relation to the bladder and rectum in cases of hemisection of the spinal cord.

The question of operation.—Paulus Ægineta in the seventh century was the first to advise operation for fracture of the spine. He says (Book VI., Sydenham Society's Translation): "The round bodies of the vertebræ may sometimes be crushed, in which case the membranes of the spinal marrow, or the marrow itself, being compressed, sympathetic nervous affections take place, and death speedily follows, more particularly if the vertebræ of the neck be affected. Wherefore, first having given warning of the danger, we must if possible attempt to extract by incision the compressing bone, or if not we must soothe the part by anti-inflammatory treatment. But if any of the processes of the vertebræ, of which the spine, as it is called, consists, be broken off, which will readily be felt upon examination by the finger, the broken piece yielding, and returning again to its position, we must make an incision in the skin externally, and extract it, and having united the wound with sutures, pursue the medicaments for healing wounds." But the subject did not receive serious attention until Paré in the eighteenth century recommended operative treatment. Heister recommended extraction of the fragments in cases of fracture where the depressed fragments compressed the cord. "But to offer the patient no assistance because we despair would seem cruel and uncharitable, therefore we must try our skill though our attempts should be in vain; in order to which the surgeon must lay bare the fractured vertebræ with a scalpel, and replace or else remove such fragments as injured the spinal marrow." The first operation for fracture of the spine was performed by Louis in 1762, though one of the earliest of the more formal operations was carried out in 1814 by the younger Cline. In 1823 Sir Astley Cooper wrote: "If you can save one life in ten—nay, one in a hundred—by such an operation, it is your duty to attempt it, and he who says it should not be attempted is a blockhead."

The questions that will arise in discussing the subject of operation in cases of fracture-dislocation of the spine are, in order of importance: 1. Will any benefit to the patient result from the operation? 2. Will his life be endangered by the operation? 3. Will he be made worse as a result of the operation?

Let us take these in the reverse order. The condition will certainly not be aggravated as a result of the operation. This statement is made with the proviso that the operation is undertaken by a competent surgeon, accustomed to operate frequently upon the spinal cord, and whose aseptic technique is beyond reproach. Unless the operator has had considerable experience in spinal surgery it is very easy to overlook the cause of compression. It is essential, in order that an operation should be perfectly successful: (1) to remove enough laminæ to be absolutely sure that there is no remaining pressure on the cord; (2) to remove any projecting bone, whether it be a portion of the vertebral bodies, or one or more articular processes; (3) to remove all blood-clots, even though laminæ of unaffected vertebræ have to be removed to do so; (4) to open the dura mater to ascertain definitely the condition of the cord; and (5) to see that the cord dilates to

its full extent again and that pulsation returns (this is only possible where the cord has not been completely destroyed).

It is sometimes advanced as an argument that in operation there is a danger of interference in cases where spontaneous cure would result if the patient were left alone. I would reply by saying that if operation be not done and compression be allowed to continue a degeneration will assuredly result which will be as serious as though the cord had been destroyed by the original injury. Under like conditions life will not be endangered by the operation beyond an amount of risk constantly undertaken in less serious conditions, provided the initial shock due to injury has passed off. To this may be added an additional danger in those cases where the lesion is in the cervical region, with consequent paralysis of intercostal respiration. But even here, with a skilled anæsthetist and a practised operator, the risk is reduced to a minimum. The dangers of the operation are very slight therefore compared to the possible benefit to be derived therefrom.

Will any benefit result from the operation? Let us first consider what the operation may be expected to do. Briefly, it will relieve pressure, or, at any rate, remove any doubt as to whether continued pressure exists. Degeneration as a result of pressure appears within four days. If the spinal cord be not totally destroyed continued pressure may succeed in completing its destruction. Therefore the operation is indicated: (1) to relieve pressure from depressed or displaced fragments of bone; (2) to relieve pressure from blood clot or from extensive hæmorrhage, either extra- or intra-dural; (3) to relieve pressure and prevent further destruction from œdema by enlarging the constricted bony canal; and (4) to remove the future danger of pressure from exudate and inflammatory thickening. No operation will restore a cord in which complete transverse section has taken place. Therefore we are brought back to the one question, upon the answer to which hangs the whole subject of operation: Are there any symptoms by which we can in a reasonable time determine *beyond a doubt* the presence of a complete transverse section of the spinal cord? If there are not—and I believe there are not—then should not such a conclusion urge us—nay, compel us—to give our patient the benefit of an operation which experience shows neither materially endangers his life nor adds to his discomfort but lessens his pain? It will at least allow us to determine the exact nature and extent of the lesion and to place the cord under the most favourable conditions for recovery of function, if recovery be possible.

In respect to the question of operation in these cases surgeons have been divided into three classes: those who advocate operation in every case of injury in which cord symptoms are present; those who advise operation in selected cases; and those who abstain completely from operation. To those who would operate upon selected cases I would say, as Walton does, surely, "instead of selecting the occasional case for operation, we should rather select the occasional case in which operation is contra-indicated," by profound shock, high and rising temperature, and the obvious onset of dissolution. To those who abstain from operation completely I would put this question: May we not by operation often save a life or rescue a patient from a helpless condition of a most disabling character? If so, then surely the onus of proof lies upon the conservatism of those who refuse a sufferer this one chance of relief.

Bibliography.—Burrell: Transactions of the American Surgical Association, 1905, vol. xxiii. Blasius: Vierteljahrschrift für Praktische Heilkunde, 1869. Band civ. Chipault: Revue de Chirurgie, 1893, vol. xiii. Clark (Pierce): New York Medical Journal, June 2nd, 1906. Collier: Brain, vol. xxvii., 1904. Fickler: Deutsche Zeitschrift für Nervenheilkunde, Band xxix., Heft 1–2. Haynes: Medical Record, March 23rd, 1907. Kocher: Verletzungen der Wirbelsäule, Mittheilungen aus den Grenzgebieten der Medicin und Chirurgie, Band i., Heft 4. Lloyd: Medical Record, March 23rd, 1907. Marinesco and Minea: Nouvelle Iconographie de la Salpêtrière, September and October, 1906. Starr: Diseases of Nervous System, 1907. Wagner and Stolper: Verletzungen der Wirbelsäule und des Rückenmarks; Deutsche Chirurgie, 1898. Walton: Journal of Nervous and Mental Diseases, 1902, vol. xxii. Woolsey: Keen's Surgery, vol. ii.

MEDICAL INSPECTION OF SCHOOL CHILDREN.—At the annual meeting of the Gloucestershire Poor-law Association, held on March 7th, Mr. J. D. Birchall read a paper on the Medical Inspection of School Children, and after some discussion a motion was carried unanimously stating that the work of medically inspecting the school children should be carried out by and under the medical officers of health.

THE CLINICAL SYMPTOMS OF THE CASES OF EPIDEMIC CEREBRO-SPINAL MENINGITIS

ADMITTED INTO BELVIDERE FEVER HOSPITAL, GLASGOW, DURING THE RECENT EPIDEMIC, TOGETHER WITH A SHORT HISTORY OF THE DISEASE IN SCOTLAND.

BY WILLIAM DOW, M.B., CH.B. GLASG.,
SENIOR RESIDENT PHYSICIAN TO BELVIDERE FEVER HOSPITAL, GLASGOW.

THE first known cases of this epidemic occurred in Glasgow in March, 1906, but they were associated with cases occurring in the environment of the city within a radius of 15 miles. The first case treated in Belvidere Fever Hospital which was bacteriologically verified was admitted in May, 1906, but there had been a few cases verified in the city in the two months prior to this. From May, 1906, to the beginning of January, 1907, 55 cases subsequently verified were admitted, and these comprised practically all the cases occurring in the city which were sent to hospital. Of these, 2 cases were admitted in May, 5 in June, 7 in July, 7 in August, 5 in September, 14 in October, 5 in November, and 10 in December. Of these, 21 were acute cases (i.e., death taking place within the first 14 days); 2 were mild (i.e., the onset being mild and complete recovery taking place in from 21 to 40 days); 7 were of an abortive type (i.e., those which recovered within the first 10 days); and the remainder (25 in all) ran a chronic course (i.e., the onset being acute but lasting longer than 30 days). These cases were taken almost entirely from the poorer localities in the southern and eastern districts of the city. With the onset of very cold weather in December, 1906, a marked increase took place, so that in January of last year 17 cases were admitted, this being the greatest number since the commencement of the epidemic. 15 cases subsequently verified were admitted in February, 26 in March, 42 in April, and 28 in May, 1907. In all 128 cases subsequently verified were admitted during the first five months of last year. Of these, 55 were acute cases, 8 mild, 9 abortive, and 56 were chronic. During the latter phase of the epidemic the cases have been of a more acute type. The Glasgow epidemic therefore commenced in March, 1906, continued throughout the summer and autumn in a mild degree, and with the sudden onset of very cold weather about the beginning of January of the past year a marked exacerbation took place, culminating in April, and since declining.

The distribution of the cases as regards age, sex, and fatality is given in the accompanying tables. As the cases

TABLE I.—*May, 1906, to January, 1907.*

Ages of patients (years)	Males.			Females.			Total.		
	Admitted.	Died.	Mortality per cent.	Admitted.	Died.	Mortality per cent.	Admitted.	Died.	Mortality per cent.
Under 1	3	3	100·0	3	3	100·0	6	6	100·0
1 and under 2	—	—	—	5	4	80·0	5	4	80·0
2 ,, 3	1	1	100·0	1	1	100·0	2	2	100·0
3 ,, 4	2	2	100·0	1	—	—	3	2	66·6
4 ,, 5	2	1	50·0	—	—	—	2	1	50·0
5 ,, 6	6	5	83·3	3	2	66·6	9	7	77·7
6 ,, 7	3	3	100·0	2	1	50·0	5	4	80·0
7 ,, 8	—	—	—	3	2	66·6	3	2	66·6
8 ,, 9	2	—	—	3	2	66·6	5	2	40·0
9 ,, 10	1	—	—	—	—	—	1	—	—
10 ,, 15	—	—	—	5	4	80·0	5	4	80·0
15 ,, 20	3	3	100·0	2	1	50·0	5	4	80·0
20 ,, 25	3	2	66·6	—	—	—	3	2	66·6
25 ,, 30	—	—	—	—	—	—	—	—	—
30 ,, 35	—	—	—	1	—	—	1	—	—
Total	26	20	76·9	29	20	68·9	55	40	72·7

are so few any elaborate discussion of these figures is unnecessary. Certain points may be noted: the number of males and females has been practically identical. The fatality during both phases of the epidemic has been practically the same—viz., about 73 per cent.

TABLE II.—*January to May, 1907.*

Ages of patients (years).	Males.			Females.			Total.		
	Admitted.	Died.	Mortality per cent.	Admitted.	Died.	Mortality per cent.	Admitted.	Died.	Mortality per cent.
Under 1	10	8	80·0	8	8	100·0	18	16	88·8
1 and under 2	4	4	100·0	7	6	85·7	11	10	90·9
2 ,, 3	1	1	100·0	6	4	66·6	7	5	71·4
3 ,, 4	7	6	85·7	5	4	80·0	12	10	83·3
4 ,, 5	7	6	85·7	3	2	66·6	10	8	80·0
5 ,, 6	2	1	50·0	5	5	100·0	7	6	85·7
6 ,, 7	3	3	100·0	2	2	100·0	5	5	100·0
7 ,, 8	—	—	—	2	—	—	2	—	—
8 ,, 9	3	1	33·3	2	1	50·0	5	2	40·0
9 ,, 10	1	1	100·0	—	—	—	1	1	100·0
10 ,, 15	8	5	62·5	11	9	81·8	19	14	73·6
15 ,, 20	12	7	58·3	5	2	40·0	17	9	52·9
20 ,, 25	2	1	50·0	1	1	100·0	3	2	66·6
25 ,, 30	1	1	100·0	1	—	—	2	1	50·0
30 ,, 35	—	—	—	1	—	—	1	—	—
35 ,, 40	—	—	—	2	2	100·0	2	2	100·0
40 ,, 45	2	1	50·0	2	1	50·0	4	2	50·0
45 ,, 50	—	—	—	1	—	—	1	—	—
50 ,, 55	—	—	—	1	1	100·0	1	1	100·0
Total	63	46	73·01	65	48	73·8	128	94	73·4

The clinical symptoms of the cases in Belvidere Fever Hospital, as they have been observed during the recent epidemic, are recorded below under appropriate headings.

Symptoms of onset.—The onset has in general been sudden. Headache and vomiting have been the chief initial symptoms. The former has always been present and the latter has only been absent very occasionally. In adults there has often been a history of shivering or rigor and in infants of convulsions. Vertigo has been present in many instances at this stage, sometimes so acute as to cause the patient to fall down on the street. Prodromal symptoms have generally been absent, but as the great majority of the cases were children their frequency cannot be estimated. Malaise has been occasionally present for a few days prior to the onset, and in some cases a feeling of uneasiness incapable of definition has preceded the acute attack by a number of hours. Sore-throat of one to two days' duration has been noted. Nasal discharge has been only occasionally observed. The onset has in many cases been fulminant, in some instances the patient having taken a full and hearty meal immediately before.

The physiognomy has been very characteristic. Generally the cheeks are flushed and in acute cases the flush is dusky or even cyanotic. Herpes when present usually appears round the lips at this stage, so that the facies resembles that of a typical pneumonia. There is generally a look of anxiety. In severe cases the conjunctivæ are suffused. The condition of the pupil is variable and will be discussed more fully later. A petechial rash sometimes appears within the first 12 hours in fulminant cases, but when present in other cases it has commonly been observed for the first time on the second, third, or fourth day. The patient is restless and lies with his head rigid or somewhat pulled back, and the arms and legs may be tossed from one part of the bed to another. There has always been stiffness of the head and neck, unless sometimes in children under a year old, when even this sign has been absent. Kernig's sign has been present in the majority of the cases a few hours after the onset, but by no means always. A type of case has occasionally occurred, death taking place in from 24 to 48 hours, in which neither rigidity of the head and neck nor Kernig's sign has developed. All degrees of mental activity have been displayed, but stupor more or less profound, and less frequently delirium, have succeeded the onset according to the gravity of the case.

The type of case has varied considerably, and for purposes of description they will be referred to hereafter under the following heads: the acute, the chronic, the mild, and the abortive. In the acute case delirium with more or less coma develops within the first few hours, and death occurs within the first 14 days. The chronic case is generally acute at onset, being ushered in with delirium, semi-coma, or coma, within the first few hours, but a fatal result does not immediately occur, and after about 14 days the case assumes a chronic character. Mild cases are those in which the symptoms of onset are quite characteristic, but there is an entire absence of delirium and coma; consciousness persists throughout the attack, and there is only moderate complaint of pain. In some of these cases there is considerable retraction of head and neck, and even opisthotonos. Abortive cases are those in which the onset has been commonly acute, and in rare instances mild, but in which recovery is complete within the first few days.

Skin.—The features have as a rule been flushed at the commencement of the disease, but in advanced cases they have been pallid. Temporary flushings of the face and of the skin generally have been common throughout the course of the disease. On the face especially circumscribed areas of deep congestion surrounded by areas of pallor have been seen. These are very evanescent, passing within half an hour from the stage of extreme brilliance to a condition only recognisable with difficulty. Goose skin has been common in the chronic stage. The tache cérébrale has been common throughout the course of the disease. Considering that the disease has been named from the eruption which accompanies it, it is noteworthy how seldom the true rash has been present. This rash, however, does not conform in the least to any of the types which we are accustomed to associate with the acute exanthemata. It has consisted of small hæmorrhages into the more superficial part of the corium, which on appearance have been bright purple in colour and of irregular form. They commonly have varied in size from $\frac{1}{8}$ to $\frac{1}{4}$ inch in diameter, but smaller and larger elements have been not unusual. The largest observed approached the area covered by a shilling piece. The common duration of these hæmorrhages has been from three to four days and they have faded in brightness usually within 24 hours. They pass through the ordinary stages of the disappearance of a hæmorrhage. Their whole course is much shorter than that seen in the typhus eruption and they have never been preceded by the roseola commonly present in the latter disease. When these hæmorrhages have occurred in the subcutaneous tissues they have been faint blue in appearance. Another feature of the skin occasionally observed has been a mottling not unlike that seen in typhus fever, but this has never appeared with the widespread distribution common in the latter disease. This has been observed in seven cases, and in the first week of the disease. It has only been associated with the rash in one case. As regards the appearance of the eruption there is little to distinguish it from an ordinary purpura except its rapid evanescence. This would seem to show that the amount of blood effused is very small and very superficial. This eruption has commonly appeared from the first to the fifth day, the commonest days having been the third and fourth. A petechial eruption not distinguishable from that described distributed generally has been observed in four instances immediately prior to death. In cases which have developed chronic hydrocephalus an eruption of very small petechiæ distributed more or less generally have been common shortly before death. These have been a faint blue in colour and not easily visible. Six cases out of 55 treated during 1906, or 10·9 per cent., had a generalised petechial eruption all over the body. 27 out of 128 cases, or 21·09 per cent., treated during the first five months of 1907 had generalised petechial eruptions, so the petechiæ have been much more common during the latter phase of the epidemic. Four out of these latter cases had hæmorrhages also under the conjunctivæ. Two had hæmorrhages under the conjunctivæ alone. Recovery has only taken place in one case where petechiæ were found in the skin. In this case the fever continued for 160 days, recovery taking place with deafness.

Herpes has occurred in 18·1 per cent. of cases in the first phase of the epidemic and in 21·09 per cent. of cases in the second phase. The frequency of the occurrence of herpes and the petechial rash has been therefore exactly the same

in the latter part of the epidemic. It has, as a rule, occurred on the first or second day but sometimes as late as the second week. Its most common situation has been the angles of the mouth, as in a pneumonia, but frequently it has appeared on the cheek, around the ears, and the alæ of the nose. The number of the clusters of herpetic eruptions has varied from six to eight. In two instances the cluster upon the side of the face and neck has been as large as, or larger than, the hand. In one case the herpes has appeared extensively over one shoulder blade, and in another over the inside of one knee. In one instance a scarlatiniform rash has been present soon after the onset.

In two of the chronic cases an eruption beginning as papules and becoming pustular appeared distributed over the body. It ran a moderately definite course and but for the fact of its healing did not differ a great deal in appearance from those generally distributed septic infections of the skin frequently seen in emaciated children. The rose spots described by other writers have never been observed in this epidemic.

Nervous system.—Variation in the nervous symptoms naturally occurs according to the extent and intensity of the meningitis and the degree in which the cerebro-spinal axis is congested or implicated, but certain symptoms have occurred in all, or nearly all, cases and must be considered characteristic. Pain, already described as an initial symptom, has continued during the acute period of the illness. It has ordinarily been severe but its intensity has varied in different patients. Its most frequent seat has been the occiput, the frontal region, and the top of the head, and the same patient at different times has complained of all of these parts. It has also been common in the nucha and along the spine. The epigastrium, the umbilical and lumbar regions, and the extremities are frequently affected, and the pain shifts from one part to another. It has been more common and persistent in the head and along the spine than elsewhere. In these situations its appearance is in all cases coincident with the onset of the disease, and it begins to abate as a rule within the first few days and is much less pronounced by the end of the second week. The state of the mind is that of apathy or indifference, and between this mental state and coma there is every grade of disturbance. Delirium has not been infrequent. It is rarely quiet in form and seems chiefly the result of pain which rouses the patient from the state of stupor and causes him to cry out frequently and name the affected part. If the pain is severe such patients can hardly be restrained in bed, their restlessness is extreme, and their management is difficult. The patient may be quiet for a few minutes, and then aroused roll and toss from one part of the bed to another. It has always been primary, occurring with the onset of the disease, and has lasted a variable time, in some cases passing off after a few days and in others persisting until death. When delirium ceased it was an indication that the case was passing into a chronic form and did not necessarily mean commencing recovery. The form has varied from muttering to maniacal delirium, but in most cases the condition suggested that the origin of the mental symptoms was rather to be sought in the action of pain on a semi-conscious subject rather than in cerebral intoxication seen in other forms of infective disease. In one instance insanity was diagnosed at the onset. The patient was suffering from a muttering form of delirium. He seemed to answer certain questions quite intelligently, but talked away to himself in an incoherent rambling manner. There was no complaint of pain. The fluid removed from the spine was purulent and he died after an illness of six days' duration.

Hyperæsthesia of the skin has been a common symptom, friction upon the surface and even slight pressure with the fingers eliciting cries of pain. Contraction of certain muscles has been present in all cases, unless sometimes in very young children. This contraction has been most marked in the posterior muscles of the neck causing retraction of the head, but it has been also common in the posterior muscles of the trunk causing opisthotonos, and in less degree in those of the abdomen, and in the hamstring muscles of the lower extremities. In consequence of this the patient lies usually with his head thrown back, with the thighs and legs flexed, and with some degree of arching of the spine. Contractions have also occurred in the flexors of hands and feet, especially affecting the thumb and great toe. The varieties of these symptoms are naturally best seen in the chronic cases. In those which end fatally the muscular contraction and rigidity continue to the end, and in some of these the body is so rigid that it can be lifted like a statue. However, during the intervals of apyrexia which often occur in these cases the muscular rigidity frequently passes partly off, and in rare instances completely to reappear again with the recrudescence of the fever.

The plantar reflex has been exaggerated in acute cases before the onset of coma. It has been present throughout the disease in all cases, but in the chronic it is somewhat less active. Babinski's sign has never been obtained in any of the cases. The other superficial reflexes have also been active in the early stage but have been difficult to obtain later in the disease. The knee-jerk is generally exaggerated in acute cases before the onset of coma but may be unequally present in both limbs. It is almost generally absent throughout the course of the disease in all the chronic cases. The loss of knee-jerk persists into convalescence. Ankle or patellar clonus has never been elicited at any stage of the disease, nor has increased reflex of the tendons of the arms and wrists been observed.

Rapidly progressing emaciation begins to be observed in chronic cases from the fourteenth day onwards. The skin, particularly of the abdomen, in these cases becomes dry, wrinkled, and inelastic. The muscles also become extremely atrophied. Trophic lesions of the skin have not been observed. In cases which recover flesh is put on rapidly.

Chronic hydrocephalus is fairly common and its presence may be recognised from the twentieth day onwards and sometimes earlier. The condition is suggested by the extremely wasted appearance of the face and its small size in comparison with that of the head. The eyes have a fixed stare. There is commonly retraction of the upper eyelid, which is occasionally associated with an irregular form of nystagmus, and rhythmic contraction and dilatation of the pupil, a form of hippus which is described fully later. Optic neuritis is found in all these cases. Headache already described is present. The mental condition is variable. The mental faculties in some degree as a rule are retained, but sometimes there is coma. Convulsions occasionally occur in children at this stage. Polyuria is also a symptom. In these cases, although the symptoms present for the most part can be referred to the hydrocephalus, it is noteworthy that the organism is still usually abundant in the spinal fluid. The extreme loss of nutrition is not due to the loss of power of feeding or digestion, as such patients in general feed well. Paralysis of any muscle or group of muscles has only occurred in one case, when complete hemiplegia affecting the right side developed a few days before death. In the very acute cases, however, difficulties of deglutition appeared shortly before death.

History of convulsions is commonly obtained as accompanying the onset in children under a year, but no such history has been recorded in adults. Convulsions have occurred in the course of the disease in children in acute cases, and they have been found associated post mortem with leptomeningitis extending over the vertex of the brain. They also occur in children throughout the course of the disease in chronic cases, when basal meningitis is present. Convulsions have been absent in adults but seem to have been represented by muscular twitchings in acute cases. These twitchings have been observed in the face, the arms, and the legs. They occur only at intervals and are commonly produced reflexly by movements of the limbs or by touching the skin.

Organs of special sense.—Of the organs of special sense the eye and the ear have been most frequently affected. With regard to the former, the pupils in the irritative stage of the disease have been contracted when there has been delirium. In the stage of coma they have commonly been dilated. Inequality of the pupils has been very frequent in all stages of the disease. They have commonly responded very feebly to light. An irregular form of hippus has been frequently observed both in acute and in chronic cases. In this the pupils have contracted and dilated with something approaching a rhythmic frequency, the oscillations commonly occurring from 10 to 15 times a minute. A comparison between the maximum of dilatation and maximum of contraction has been greater than normal and the oscillations have been irregular in speed and in rhythm. This has occurred without the eye being illuminated or the gaze being fixed on a distant object. Strabismus has been moderately common at all stages, being apparently due to pressure rather than to central lesion of the nerve, as it varied in the same subject from day to day. In only one case which recovered was the squint permanent, and in this case it was internal.

Nystagmus, both horizontal and vertical, has been commonly observed in very acute cases and occasionally in the chronic stage.

A curious condition, consisting of an associated movement of the upper eyelids, pupils, and eyeballs, has been occasionally observed in chronic cases in the stage of chronic hydrocephalus. This consisted of spasmodic retraction of the upper eyelids, accompanied with the form of hippus already described and with an irregular form of nystagmus, but not true nystagmus, where an involuntary oscillation of the eyeball occurs from side to side of the central line of vision. In these cases the nystagmus has consisted in irregular twitchings of the eyeballs in all directions and not from side to side of the middle line. Retraction of the upper eyelids has been moderately common in the stage of chronic hydrocephalus. Ptosis has not been observed. Conjunctival hæmorrhages have been only observed in six cases. In acute cases there has commonly been a uniform diffuse redness of the conjunctivæ. In only a very few cases has there been purulent conjunctivitis and this in exceptional instances has proceeded to ulceration of the cornea. Out of a series of about 40 cases which were examined carefully for changes in the fundus optic neuritis has been observed in all the cases which had developed chronic hydrocephalus, but has not been found at any other stage of the disease. In the acute cases hyperæmia of the optic discs has commonly been noted. A few patients have appeared to be blind throughout the course of the disease but none of these have recovered with blindness.

As to the ear, both the middle ear and the central auditory system have been frequently affected. In children, inflammation of the middle ear with purulent discharge has been moderately common. The diplococcus of Weichselbaum has never been isolated in pure culture from this discharge. Out of the 14 recoveries in the first portion of the epidemic complete deafness was present in four. In two of these the disease was abortive in character and in two it was chronic, and the deafness was observed in all immediately after the initial stage of coma had passed away. Out of 30 patients who recovered from January to May, 1907, five were completely deaf. Of these, three were abortive cases and two were chronic, and the deafness was observed in all, in the early stage of the disease, as soon as the stupor had passed away. Other patients, especially children in whom a fatal result occurred, may have been deaf during the course of the disease, but it has been difficult to make this out. The deafness in all cases has been bilateral and complete. In none of these cases has improvement in hearing taken place since dismissal. No discharge from the middle ear has occurred in any of those who recovered with deafness.

Taste and smell have not been affected.

Nasal discharge has not been a feature of any of the cases.

Temperature.—At the onset in acute cases the temperature commonly ranges from 102° to 104° F. In these cases it commonly continues at this level without remitting throughout the course of the illness and rises or falls immediately before death. In many cases, however, in which coma has occurred within the first few hours after the onset the temperature has been sub-febrile, normal, or subnormal when admitted on the first or second day of illness. Fever has probably been present at the onset and the temperature has fallen with the commencement of coma. When the acute case aborts the temperature remains high for some days and falls by crisis or less commonly by lysis. In the chronic cases there has been so much variability in the course of the temperature that classification is impossible. In many of these cases the temperature has been apparently arbitrary. In some there have been periods of apyrexia, lasting from three to seven days, followed by febrile periods remittent in character, lasting for about a similar period, though the periods of apyrexia became gradually longer as the illness progressed. In one chronic case this form of fever lasted for 160 days, but the pyrexia did not occur at regular intervals. In this case during the latent intervals of the fever all the symptoms of pain, rigidity, &c., passed completely away, but the renewal of the fever on every occasion was accompanied with nausea and vomiting, headache, and rigidity of the muscles. There is, however, one form which has been much more common than the rest. In this commencing at a period from the eighth to the fourteenth day the temperature has taken on a markedly remittent type, the daily swings amounting to as much as 3° or 4°. The maxima and minima do not regularly occur at set hours, and consequently the phenomenon is much more discernible in a four-hourly chart. This remission in some cases reaches the normal line, or even a degree below it, and persists for a considerable time. There is no phenomenon such as sweatings or burnings of the skin associated with this daily oscillation, but headache and vomiting are common. The oscillation may persist for five weeks or longer, and either end abruptly or by the excursus becoming gradually less marked. The return of the temperature to normal may either mean approaching convalescence or the approach of a stage of gradual wasting, fatal sooner or later. The commencement of this stage of daily remission supervenes sometimes on the acute high fever, while sometimes there is a period of several days' normal temperature between the end of the primary fever and the beginning of this stage. In many of the chronic cases the temperature has been more or less normal for weeks before death. In some of the milder cases the temperature has remitted regularly from 101° to 102° to normal in the morning throughout. In cases of this kind, where there has been no delirium or coma and where relapses have not occurred, recovery has been the rule.

Circulatory system.—The pulse-rate had varied greatly in different cases. As a rule it has been much accelerated. In a number of cases the pulse has been slow, in a few ranging as low as 40 to 50 per minute. Marked variation in its frequency at different hours of the day and on consecutive days has been frequently observed in the same individual. The pulse-rate is ordinarily little influenced by alterations in temperature. In two cases which recovered its rate remained normal during the whole course of the disease, although the temperature throughout the illness was considerably elevated. In the early stage the pulse has been full, regular, and of good tension, and it remains good in cases which recover. In chronic cases it becomes rapid, irregular, and of poor tension. Several hours before death in acute cases the pulse has usually become very rapid and feeble. This has been associated with lividity of the body. No changes in the heart sounds are observed beyond what are common in all wasting diseases.

Respiratory system.—The respirations as a rule have been accelerated at the commencement of the illness, always absolutely, but frequently also out of proportion to the acceleration of the pulse, though no lesions of the lungs could be detected on auscultation. This has been one of the conditions which produced the resemblance of the patient's appearance to that of one suffering from acute pneumonia. In those cases in which the pulse-rate has been slow at the commencement the pulse-respiration ratio has been as high as 1 to 2 or even higher. In the acute cases various forms of nervous breathing were frequent, particularly in young children, and shortly before death. True Cheyne-Stokes breathing was very rare, but the various modifications of this, such as that where the breathing rises gradually to a maximum, falls suddenly to a minimum, rises slowly again, and passes through cycles of irregular length, have been not infrequent. In some of these the pulse has followed the respiration, and in some not. How far these irregularities of the respiration have been pain reflexes in a patient in a state of stupor is naturally not clear, but a number must undoubtedly be placed under this category. In the acute cases immediately prior to death, intermittent, sighing, and irregular respiration have been frequent. In chronic cases the breathing has generally been quiet.

Digestive system.—Vomiting has been the most prominent symptom of disorder of the digestive system. A history of this has been almost uniformly obtained. It commonly ceases after the first few days, but in chronic cases it may occur at intervals without reference to the pyrexia. In those cases, however, in which relapses occur it has been a feature of the periods immediately preceding the recrudescence of the fever. It has occurred with little effort and without apparent nausea. Unless throughout the first few days, during the acute stage of the disease the appetite has as a rule been good and considerable nutriment has been taken, and often with apparent relish. The occurrence of vomiting seems to have interfered very little with the taking of food. The fæces in general have been quite normal, showing no evidence of incomplete digestion. Throughout the course of the disease the tongue, as a rule, has been fairly clean, with perhaps a thin white moist fur. In very severe and protracted cases only has it been dry and brown. It has been observed to peel in an irregular and patchy manner in some cases. The abdomen has never been distended, nor has the spleen

been found to be enlarged. The bowels, as a rule, have been constipated. There has been loss of control of the rectum in all the acute cases and also in many of the children even when they have been conscious.

Urinary system.—In the acute stage of the illness the amount of urine passed has not been altered. In chronic cases, however, where hydrocephalus has developed, the amount has been greatly increased and the colour has been pale. No sugar has been present in any of the cases. Albumin has only been found very occasionally and in small quantity in acute cases shortly after onset. It has never been present at any other stage of the disease. Blood has never been found. There has been no instance of nephritis observed. Incontinence of urine has been common in children throughout the course of the disease. It has only been observed in adults during the state of unconsciousness.

Joints.—Arthritic pain, though it has been a feature of some other epidemics, has only occurred in a very few cases. The wrists, knees, and ankles have been chiefly affected. The joints have been tender to touch. This symptom when present appeared shortly after the onset and subsided in a few days. A purulent arthritis has occured in only two cases. In the first case the knee-joint alone was affected. The patient had a sharp attack of the disease, which aborted. The swelling appeared the day in which the crisis occurred, when the patient was otherwise well. The cavity of the joint was much distended. The skin was red and tender to the touch. On exploring thick yellow pus was obtained, from which the diplococcus of Weichselbaum was isolated in pure culture. The knee was opened and drained and the patient made an uninterrupted recovery with, however, an ankylosed joint. The other case was chronic in character. Swelling of both wrists, both ankles, and the right knee-joint developed within a few days of each other well on in the course of the disease. Slightly turbid fluid was obtained on aspirating the knee-joint and the diplococcus of Weichselbaum was again isolated in pure culture from this fluid. This patient died eventually, but the swelling of the joints subsided without surgical interference.

Historical Note.

In view of the fact that cerebro-spinal fever has assumed epidemic proportions in Scotland for the first time, an account of its history and its clinical aspect should not be without interest.

The first case definitely recognised occurring in Scotland was communicated to the Glasgow Clinical and Pathological Society in 1883[1] by the late Dr. James Finlayson. This case was admitted to the Glasgow Western Infirmary in February of the same year and was verified by post-mortem examination. However, in 1878 the late Dr. T. J. Maclagan had reported in THE LANCET[2] a series of cases occurring in Dundee, but doubt was expressed at the time as to their real nature, many considering that they were aberrant cases of typhus fever, and a careful comparison of his clinical account with the symptoms observed in this epidemic leads to the belief that such was really the case. One of his chief points, the absence of rash, is of much less weight at the present time, as it is now known that the characteristic rash of typhus fever is absent in fully a third of the cases. Dr. Maclagan reported these cases again more fully in the *Edinburgh Medical Journal* in the year 1886.

In May, 1883,[3] a case subsequently verified by post-mortem examination was admitted to the late Sir William Gairdner's wards in the Glasgow Western Infirmary. In January, February, and March, 1884,[4] the first definitely recognised outbreak of this disease in Scotland occurred in Galston, Ayrshire. These cases, six in all, were reported by Dr. William Frew (Kilmarnock) to the Clinical and Pathological Society of Glasgow in May of that year. Two of them were verified by post-mortem examination. Dr. Frew also describes some cases of an abortive type which occurred at the same time. Immediately on seeing this paper Dr. Byrom Bramwell[5] wrote to Dr. Frew stating that he himself had observed sporadic cases in Edinburgh. Dr. Alexander Collie[6] also wrote about the same time stating that cases of this disease had come under his own observation in Scotland.

In 1885[7] the late Dr. Finlayson reported a further case occurring in his wards in which the diagnosis was confirmed post mortem. In the same year[8] Dr. J. Nigel Stark reported two cases occurring in the Royal Infirmary, Glasgow, in which the diagnosis was likewise confirmed post mortem. In 1887[9] Dr. Anstruther Davidson (Sanquhar) reported a case which recovered, convalescence being very protracted. From 1884 to 1888[10] single sporadic cases of the disease occurred in Rothesay, Dumbarton, and Kilmarnock, while in the four years six further cases were observed in Galston. These were also recorded by Dr. Frew. In some of these the diagnosis was verified by pathological examination. In 1892[11] Dr. W. A. Maclachlan of Dumbarton reported a case which recovered. At the annual meeting of the British Medical Association at Carlisle in 1896 Dr. Frew read a further paper in which he states that he had collected notes of upwards of 100 cases of cerebro-spinal fever which had occurred in Scotland without, however, specifying the exact localities in which they occurred. A third fatal case verified post mortem was admitted into the wards of the late Dr. Finlayson in 1900. In the same year[12] Dr. T. K. Munro reported a case occurring in the Glasgow Royal Infirmary in which recovery took place in five days. The three cases of Dr. Finlayson, the case of Sir William Gairdner, and the two cases of Dr. Stark all occurred in persons residing in Glasgow and afford proof that the disease has been present in the city since 1883.

Professor J. Glaister made in 1902 a post-mortem examination on a case of sudden death occurring in Paisley. In his report to the corporation he stated that he had found the characteristic organism of cerebro-spinal fever in the exudation round the brain and spinal cord, and he also expressed the opinion that six other cases occurring at the same time were clinically cases of the same disease. Six undoubted cases occurred in Rothesay between May 6th, 1904, and June 4th, 1905, one of which was verified by lumbar puncture. Dr. F. Dittmar made a report on these to the Local Government Board of Scotland. Dr. J. Wallace Anderson has believed for a considerable number of years that the disease was constantly present in Glasgow in small amount. He has published a note of his cases in the Transactions of the Epidemiological Society and he recently gave a demonstration of cases that had recovered in the Glasgow Public Health Office. I had the fortune to be present at this demonstration and I had no doubt that the majority of his cases had been genuine examples of the disease. Sporadic cases have therefore occurred in Scotland during the last 20 to 30 years, but this is the first occasion there has been an epidemic comparable in extent with any that has occurred in the Continent or America.

Belvidere Fever Hospital, Glasgow.

[1] Glasgow Medical Journal, September, 1883, p. 219.
[2] THE LANCET, Feb. 9th, 1878, p. 219.
[3] Glasgow Medical Journal, June, 1883, p. 459.
[4] Ibid., July, 1884, p. 21.
[5] Ibid. [6] Ibid.
[7] Ibid., July, 1885, p. 56.
[8] Ibid., July, 1885, p. 58.
[9] Ibid., April, 1887, p. 241.
[10] Ibid., March, 1888, p. 193.
[11] Ibid., August, 1892, p. 90.
[12] Glasgow Hospital Reports, 1900, p. 253.

A REMARKABLE CASE OF PERSISTENT INGESTION OF NEEDLES

AND THEIR REMOVAL FROM DIFFERENT PARTS OF THE BODY, ESPECIALLY FROM THE ORGANS OF THE ABDOMINAL CAVITY, BY LAPAROTOMY SEVERAL TIMES REPEATED.

BY ALEXANDER NICOLL, M.D.,

ASSISTANT PROFESSOR OF SURGERY, FORDHAM UNIVERSITY MEDICAL COLLEGE, NEW YORK; VISITING SURGEON TO FORDHAM HOSPITAL; AND CHIEF OF THE SURGICAL CLINIC, ST. VINCENT'S HOSPITAL, NEW YORK.

OPERATIONS for the removal of needles from the human body are by no means infrequent, but a somewhat extended examination of surgical literature has not discovered a case in which the patient so persistently ingested needles and submitted to severe operations for their removal as the one narrated in this paper. It has attracted considerable attention through her readiness to give information when she was out of the hospital, and now that the end has come it seems fitting to publish the details, if it serve no other purpose than to add a very unique case to the already varied collection of records of foreign body perforations of the gastro-intestinal tract.

On Oct. 26th, 1906, the patient who is the subject of this

paper was admitted to Fordham Hospital, New York. She was 23 years of age and married. Her illness at that time was referred entirely to her stomach. Attempts at eliciting a satisfactory history from the patient were met, in the main, by sullenness, evasion, and apparently deliberate misstatements. I learned, however, that she had been the subject of surgical attention at different times, the extent of her operative treatment having been such measures as repair of a cleft palate, removal of the coccyx, and uterine ventral suspension. She stated that she had always been exceedingly nervous, was occasionally the subject of convulsions, and had never had any illness resembling her present trouble. She had been sick for a week previously to her admission to the hospital with gradually increasing pains in the region of the stomach and persistent vomiting. The vomiting seemed to bear no relation to the ingestion of food and neither relieved nor aggravated the pain in her stomach.

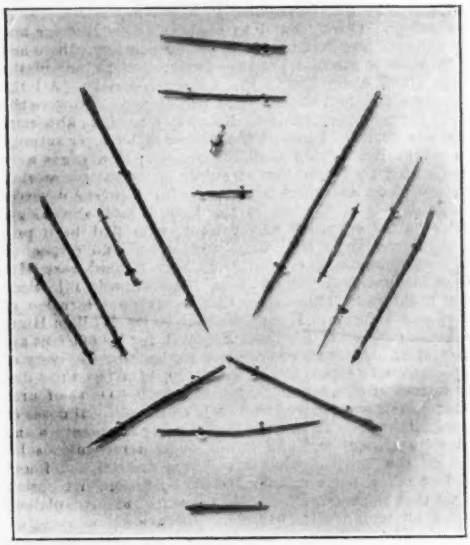
Examination showed the evidences of the above-mentioned operations and, aside from the fact that the patient was of an extremely hysterical type, directed attention to the abdomen. There were several small scars over the stomach the presence of which she either *could* not or *would* not explain. The entire abdomen was distended and tender, and rigidity in the upper portion was particularly marked, but I made out no intra-abdominal mass. Vaginal examination showed merely a normal uterus and appendages in an abnormal position, and a point of tenderness immediately behind the cervix in the posterior vaginal fornix. The temperature was 99·6° F., the pulse was 88, and the respirations were 20. Urinalysis indicated normal kidneys.

In the light of later events the character of the tenderness and rigidity of the abdominal area is interesting. The *tenderness* upon the lightest and most superficial touch was apparently exquisite, was most marked over the region of the stomach, and was a little more marked to the left of and below the umbilicus than in a similar region to the right. It was noticeable that the *rigidity* disappeared when the patient's attention was diverted to another place. These two facts, the exaggerated superficial sensitiveness and the fleeting character of the rigidity, taken in consideration with the general demeanour of the patient strongly suggested hysteria as the sole explanation of her trouble. In addition to these facts the cicatrices of the operations already performed, coupled with the patient's repeated demands for "surgical treatment," as she herself put it, tended to strengthen further the presumption that she belonged to the class of hysterical women who have compelled that phrase of medical slang "operation crazy."

On the day following her admission the patient vomited about three ounces of bright red fluid blood, unmixed with food of any kind. She was not seen in the act of vomiting but an immediate examination failed to reveal any bleeding point in the mouth or pharynx and there was no evidence of epistaxis. Gastric sedatives were administered and a restricted diet was ordered. A normal bowel movement was obtained. On the second day after admission the patient again vomited some blood, this time mixed with a little food. In the afternoon of this day she also had a general irregular convulsion with opisthotonos. On Oct. 29th she vomited frequently, the vomitus always containing a little fluid blood. Her convulsion was repeated and overcome by gradual digital dilatation of the sphincter ani. This measure proved valuable in both a curative and prophylactic manner for she was never again affected in a similar way. On the 30th the vomiting continued. The temperature at no time rose above 100°, and the pulse afforded no guide to the general condition of the patient, as it varied from 80 to 140 per minute with no apparent cause. On the 31st, being unable to explain the presence of blood in the vomitus by a diagnosis of hysteria, and bearing in mind the fact that a great many of the cases of gastric ulcer occur in highly neurotic patients, the tentative diagnosis of such a condition was made and operation for its relief was undertaken. When the patient found that an operation was considered advisable she appeared quite satisfied—a feature of the case which was not at that time properly appreciated.

Under ether anæsthesia I opened the abdomen through the sheath and fibres of the right rectus abdominis, the incision extending from the free border of the ribs downward for about three inches. The fingers of the exploring hand came in contact with an omental adhesion fixing the stomach to the anterior abdominal wall. At this point was a hard mass which was removed and found to contain an ordinary cambric sewing needle very much corroded. Further search brought us immediately upon another needle protruding from the stomach itself, half an inch from the greater curvature and about two inches from the pylorus. Part of this needle was in the cavity of the stomach and part was protruding into the abdominal cavity, the extra-gastric portion being entirely protected by a small omental graft. So roughened and corroded was this needle that in order to remove it an incision was necessary, the stomach wall being split for about half an inch. This small opening was sutured with a single row of the ordinary Lembert stitching, black silk being the material used. Two other needles were found perforating the stomach nearer to the lesser curvature and about equally distant from the cardiac and pyloric extremities.

FIG. 1.



Needles removed at first operation. The reproduction of the photograph shows well the extent to which they were corroded.

These were removed and the resulting wounds treated in a manner similar to that described above. Lying between the folds of the gastro-hepatic omentum were two more needles. Here I merely split the peritoneum, removed the needles, and whipped the resulting raw surfaces together with a continuous suture of No. 1 catgut. Continuing the investigation downward, the transverse colon was next encountered. This was bound to the parietal peritoneum by numerous delicate adhesions which were thoroughly organised. The wall of the colon was dimpled and pitted in several places by little puckered scars, the origin of these scars being immediately made manifest by the discovery of four needles in different stages of emigration from the large intestine into the folds of the great omentum. Each of these needles was treated as follows. The intestinal coat was incised sufficiently to allow removal of the foreign body and then was closed by a single row of Lembert stitches of black silk. Proceeding downwards from the colon the omentum was next examined. It was found to be quite adherent to the abdominal wall and was gently freed by means of the fingers. It contained six more needles. These were clustered together in the lower left quarter of the omentum and a simple resection of the needle-bearing area was resorted to. In order to continue the exploration I had found it necessary gradually to enlarge the original incision as more room was needed, and it now reached to a point one and a half inches below the level of the umbilicus. The general transmuscular character of the incision was preserved throughout. In palpating the abdominal wall from within, four more needles were found lying in the parietal peritoneum at the point of the union of that membrane and the omentum. They were gathered together in an area three inches in diameter just to the left of, and below, the umbilicus. In nearly the same position on the right side of the

abdomen three needles were discovered, two of them lying in the parietal peritoneum and one in the preperitoneal areolar tissue. All seven needles were removed, those lying in the peritoneum requiring for their removal a simple incision of that membrane, the resulting wounds being closed by individual running sutures of No. 1 catgut. The single needle which lay in the preperitoneal tissue was reached by freeing the peritoneum from the deep fascia and was thus removed extra-peritoneally. Further search showed the presence of a needle in the cul-de-sac of Douglas. This was apparently safely encysted, had caused no pain, and required for its removal a marked extension of the incision with a much greater tendency to post-operative accident, and the prolongation of an already necessarily protracted operation. It seemed wise to leave it where it was being so well protected. The small intestine was next investigated by gently passing it between the fingers its entire length. It was found to contain no needles nor any other unusual foreign bodies, and at no point was there any scar to show a possible previous perforation by any of the needles found elsewhere in the abdominal cavity. All the remaining abdominal viscera were palpated, as also were the walls of the peritoneal cavity. Nothing else of an abnormal nature was found. I closed the abdomen by layer sutures, plain catgut No. 2 being used throughout; skin edges were approximated by a subcuticular suture of the same material.

One event in an otherwise uneventful recovery deserves mention and is of interest in the light of later knowledge. 24 hours after operation the patient, who had been progressing exceedingly well, utterly collapsed and responded to vigorous stimulation only after an hour of hard work with high saline enemata with whisky, hypodermatic injections of the usual heart stimulants, and intravenous infusion of normal salt solution. I am indebted to Dr. William Hinz, then house surgeon of Fordham Hospital, for his efficient aid at this time. After this temporary set-back the recovery of the patient was rapid and satisfactory. On the third day after operation she began taking soft food. On the fourth day her bowels were moved thoroughly by fractional doses of calomel followed by salts. On the fifth day temperature and pulse were normal and she was allowed a restricted solid diet. On the tenth day her wound was dressed and found healed. She had not vomited since the operation. Excepting the fact that she was occasionally nauseated and complained of some abdominal pain her convalescence was uneventful.

When confronted with the conditions found at the operation the patient became taciturn and unresponsive and it was not until six months later, when her hysterical condition had temporarily disappeared, that she confessed to having "eaten" the needles about 18 months before she came under observation and said that she had swallowed them all at the same time. How many she had taken she was unable to state.

In the foregoing description of the operation the use of the word "needle" requires, perhaps, some explanation. In not every instance was a complete needle encountered but each piece was of sufficient length to warrant the assumption that it represented a full needle. They varied in length from half an inch to the full three-inch length. Sometimes the point was lacking, sometimes the eye; in every case the metal was much corroded and in some cases so friable as readily to break up into several pieces when grasped between the thumb and fingers. So firm was the clutch of the enveloping tissue upon these roughened bodies that no needle could be *pulled* out, but each required to be *cut* out.

The remarkable versatility of the great omentum was beautifully demonstrated in this exploration. Needles just in the act of perforating the stomach or intestinal walls were invariably covered by a small portion of omental tissue. Those which had entirely perforated were found in the omentum itself, and the course of those lying in the abdominal wall was indicated by the needles found in the omentum at various levels. Apparently the omentum anticipated the perforation, enshrouded the offending body in its protecting folds, and passed it on to the comparative safety of the abdominal wall. The fact that the needles which escaped from the stomach into the duodenum should traverse safely the entire length of the small intestine and then find the lumen of the colon too cramped to allow of their continued progress is but another illustration of the well-known paradox. The needle found in the cul-de-sac of Douglas probably perforated the upper part of the rectum itself. However, that the small intestine is but human after all was shown later on in this case.

On Nov. 30th, three weeks after operation, the patient again required attention. In the afternoon of that day she complained of nausea, faintness, and abdominal pain. This pain she significantly described as of a sticking character and localised at a point one and a half inches above the umbilicus and slightly to the right of the median line. The pain and nausea continued and increased, the epigastrium became tender, the temperature rose to 101°, and the pulse quickened to 120 per minute. At 7 o'clock the patient vomited four ounces of pure, bright-red blood. Suspecting another perforation I deemed operation advisable.

At 12 o'clock, under ether anæsthesia, I opened the abdomen through the upper portion of the left rectus. The large and small intestines were normal save for the scars already mentioned. A good-sized hæmatoma was discovered between the layers of the omentum, and the formation of this accounts, I believe, for the severe secondary shock which has been described as occurring 24 hours after the first operation. The clotted blood was merely shelled out and the cavity allowed to take care of itself. At the site of the perforation of the first needle removed at the first operation there was some thickening, suggesting the presence of a gastric ulcer. The stomach was opened at this point, its cavity thoroughly explored, and nothing found. The only explanation of the hæmatemesis seemed to lie in bleeding from minute ulceration at the site of the scar or from an inaccessible lesion of the œsophagus. The thickened portion of the stomach wall was turned in by means of four or five interrupted stitches of black silk. The abdomen was closed by layer sutures in the usual manner. No drainage was employed. The patient again made an uneventful recovery.

On Dec. 15th, after the patient had apparently recovered and had been up and about the ward for several days, she again vomited about three ounces of blood unmixed with food and bright red in colour. She was put to bed and all food and all medication by the mouth were stopped. There was no particular abdominal tenderness. She was occasionally nauseated during the next 24 hours, but improved and was up and about at the end of three days.

Jan. 1st, 1907, was the starting point of another attack similar to the one just described and for several days she was again confined to bed. Repose and complete stoppage of food again proved sufficient curative measures.

On Jan. 10th a point of local tenderness appeared about two inches above the umbilicus and evidences of deep-seated inflammation were discovered. The patient was put to bed and an ice-bag relieved the pain. On the 12th the point of an ordinary sewing needle presented itself at the centre of the inflammatory mass and was removed. Occurrences similar to this, at times previous to her submitting to treatment, account, I believe, for the presence of the irregular abdominal scars about which she was so reticent. The small wound in the skin immediately healed but the pain continued. Vomiting again occurred and persisted but the vomitus was not discoloured with blood. The upper central portion of the abdomen became distended and tender, the temperature rose, and, in short, the patient exhibited all the signs of obstruction of the small intestine. Though the bowels were moved freely with enemata the obstructive symptoms persisted.

On Jan. 15th an operation was resorted to for the third time. The abdominal cavity was opened above the umbilicus in the median line. The point of obstruction was found in the small intestine about 24 inches from the beginning of the jejunum. The lumen of the bowel was almost obliterated by dense scar tissue in the intestinal wall and the obstruction was completed by encircling bands of omental adhesions. In this mass of adhesions and lying immediately next to the bowel itself was a cambric sewing needle. Just above the obstruction another needle was discovered in the act of perforating the intestinal wall. Both needles were removed and were found to be entirely intact and bright and shining. They had none of the corroded, "digested" appearance of the needles removed at the first operation. After removing the needles and freeing the bowel of the constricting bands, I split the intestinal coats through the stenosed area for a distance of about two inches and sewed the resulting wound transversely with a through-and-through running stitch of black silk. A single layer of Lembert stitching covered this suture line. The abdomen was closed with layer sutures without drainage. Again the patient made a good recovery and was out of bed on the fourteenth day. She remained under observation for about six weeks, during

which time she was occasionally nauseated and sometimes vomited. About March 5th she vomited a small quantity of blood unmixed with food. At this time facilities for x ray work were available and skiagraphs were made of both thorax and abdomen. The picture of the abdomen showed the presence in an unaltered position of the needle in the cul-de-sac of Douglas described in the early part of this paper. No other foreign bodies of any sort were shown in the photographic plate. The x ray picture of the thorax and neck showed nothing unusual.

The making of the x ray plates was apparently a form of investigation which, to the mind of this particular patient, was of a nature entirely too intimate and searching and she refused further treatment and left the hospital on March 10th in good general physical condition.

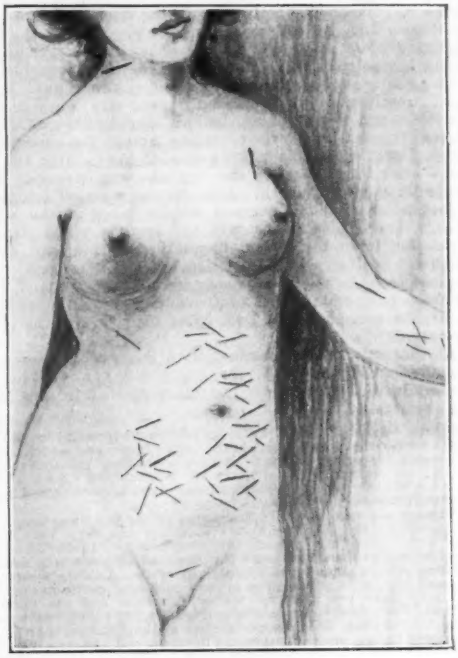
On April 12th the patient came to my office and told me that she was becoming nauseated again, that she had "discovered" another needle—in her neck this time—and that it was giving her trouble. The foreign body was easily felt just behind the ramus of the jaw and the slightest pressure upon this point brought on an attack of vomiting. The x rays failed to show this needle because it lay about a quarter of an inch above the upper limit of the x ray picture. Under cocaine anæsthesia, at my clinic at St. Vincent's Hospital, I removed this needle which was lying immediately under the skin with its point directed horizontally inward and backward. Undoubtedly the presence of an irritating foreign body in the immediate vicinity of the pneumogastric nerve would be sufficient to cause nausea and vomiting. Blood could readily appear in the vomitus, inasmuch as the internal end of this needle was in direct relation with the lower portion of the pharynx. The little wound in the patient's neck healed quickly. She took a position as domestic and discharged her ordinary duties without any difficulty. On May 17th a small abdominal-wall abscess required opening and drainage. This procedure, she proudly informed me, constituted her *eleventh* operation.

On June 20th the patient came to see me again and was in good health. She said that she felt well and her appearance confirmed her statements. She told me at this visit that she had at first experienced trouble from "eating" the needles about three weeks after she had swallowed them and that the first unpleasantness was the formation of a large abscess in her neck, undoubtedly caused by the irritation of the last needle removed. She assured me that she had opened this herself but "could not find the needle." Incidentally she confessed that she had swallowed "six or seven" needles immediately after the second operation, thus confirming my suspicions concerning the one which made its way through the abdominal wall and the two which I removed at the third laparotomy. (Inasmuch as the x rays failed to show the balance of the "six or seven," we must presume that they escaped *per viam naturam* or that her statement was somewhat exaggerated.) She told me, in addition, that she had removed a number of needles as they presented themselves at the surface of her body in the centre of small suppurating spots. A "few" were removed from her neck. At her request I examined a small area of induration deep in the cellular tissue behind and above her left elbow. She thought it was a needle and so did I. She would not submit to examination by the x rays and as she had no pain or tenderness at that point I did not urge the advisability of an exploratory incision.

I felt that the patient was practically through with her operations and was beginning to congratulate myself upon the successful termination of her case, but I was doomed to be disappointed. On June 25th she had a fall from a horse, resulting in an injury to her left arm. The arm and forearm became greatly swollen and suppuration ensued. Again she was admitted to Fordham Hospital. Examination with the x rays revealed several needles in her forearm, one especially long lying in the bend of the elbow. On the 27th, under general anæsthesia, I made an inverted T-shaped incision over the anterior aspect of the arm and forearm and with the aid of the x rays dissected out five needles. The largest one measured two a half inches in length and was situated behind the tendon of the biceps, in immediate relation to the great vessels of the cubital fossa and the elbow-joint itself. The wound was sutured and appropriate drains were inserted. Two weeks later the patient insisted that she had appendicitis. Notwithstanding the absence of the usual symptoms I kept her in the hospital for the purpose of observation.

On July 27th the patient complained that she was too ill to sit up and she was put to bed. She complained of abdominal distress and her abdomen became distended and tender; her temperature rose to 101·5° with a variable pulse and irregular hysterical respirations. On the 31st I opened her abdomen for the fourth time, excising the scar of the second laparotomy. The abdominal cavity was singularly free from adhesions. From the omentum I removed two needles and from the mesentery of the small intestine two more. Beside the ascending colon and just external to it another needle was found and removed. The needle in the cul-de-sac of Douglas, which has already been referred to, was accessible and was removed. I took a needle also from the small intestine. A sharp bar of metal, representing the business end of a safety-pin, *the remainder of which had already been found in her bed*, was removed from an omental adhesion binding the stomach to the anterior abdominal wall. A very stout adhesion firmly fixing the liver to the dome of the diaphragm contained a needle. The difficulty of working in this portion of the abdomen is responsible for my removing only a portion of this, the respiratory movements of the diaphragm breaking it in two in the grasp of my forceps. The portion left behind promptly disappeared into the substance of the liver. At a point over the appendix and in the abdominal wall I found another needle, imbedded in a mass of cicatricial tissue of cartilaginous hardness. This was removed through a separate small skin incision. Systematic search of the abdominal cavity, viscera, and parietes revealed no more foreign bodies. I removed the appendix as a prophylactic measure and for the moral effect which the knowledge of its loss would have upon her. The abdomen was closed in the usual manner with layer sutures. Again the patient's recovery was rapid and uneventful. Slight suppuration occurred in the superficial abdominal cellular tissue. When she had regained strength she was discharged from the hospital with a small abdominal-wall sinus.

FIG. 2.



The figure shows approximately the situations from which the needles were removed.

I next saw the patient on Nov. 12th. The sinus was unhealed. I enlarged the opening and removed another needle which incidentally was probably overlooked at the operation in August. She told me at this visit that she had eaten the last collection of needles in May, 1907. It was absolutely

impossible to get the girl to tell truthfully why she had inflicted such a peculiar form of punishment upon herself.

On Nov. 20th I removed a needle from the left breast of this patient, making in all 42 needles and two pins removed during the course of 13 months and by means of four major and four minor operative procedures. Shortly after this slight operation she began to complain of nausea. Her general health was bad and she rapidly lost flesh and strength. Soon she became unable to retain nourishment and was put to bed. Abdominal distension was marked and vomiting became persistent. It was evident that intestinal obstruction, due to adhesion, was rapidly being established. Rectal alimentation was undertaken and, together with gentle stimulation, was successful in bringing her strength up to a point where operation for the relief of the obstruction was possible.

On Dec. 14th I performed the fifth laparotomy. The abdomen was opened through the scar of the second and fourth laparotomies. A rapid survey of the abdominal cavity disclosed the obstructed area of the small intestine. The mass of coils was quickly freed of its numerous adhesions and the peritoneal toilet completed. As much as possible of the old cicatricial tissue was excised and the abdominal wound was closed with layer sutures of plain No. 2 catgut. Interrupted sutures of kangaroo tendon were placed in the muscular and fascial layers and the skin edges were approximated with a subcuticular suture of No. 1 catgut. This was the only one of the five laparotomies in which the material used for the closure of the wound was other than plain No. 2 catgut. I mention this merely because it is a singular fact that in the only case in which I used *unusual* precautions to guard against post-operative accident the precautions did not avail. On the following day the patient's temperature rose to 103° and she was slightly cyanosed. Examination of the chest discovered subcrepitant râles and prolonged high-pitched respiration over the upper and middle lobes of the right lung. She complained of no pain but was quite apathetic. 48 hours after operation the patient was seized with a violent and uncontrollable fit of coughing and immediately collapsed. A hasty examination disclosed the fact that, in spite of the strong suture material used and the extra precaution of a firm abdominal binder of adhesive plaster, the intestines were protruding. The patient was immediately taken to the operating room and under nitrous oxide and oxygen anæsthesia I repaired the abdominal wound with through-and-through sutures of kangaroo tendon and silkworm gut. Artificial respiration was repeatedly necessary during this procedure and only the most vigorous stimulation availed to prevent her death upon the operating table. The possession of an almost incredible vitality enabled her to rally, and 24 hours after this secondary suturing she was conscious and gradually gaining strength. Auscultation revealed complete consolidation of the upper and middle lobes of the right lung. With a dogged courage and tenacity which were a revelation to me the patient fought for her life until, overwhelmed by the pulmonary infection and the drain consequent upon the attempt to repair the abdominal wound, and vainly striving to throw off a hitherto unsuspected tubercular focus, she succumbed on Dec. 30th, 16 days after her last operation.

At the post-mortem examination a thorough fluoroscopic examination of the head, the neck, and the extremities revealed no foreign bodies. The following are brief details of the examination:—

Thorax.—Heart: Normal. Left lung: Intense hypostatic congestion and a few scattered tubercles. Right lung: Upper and middle lobes filled with tubercles and small cavities containing pus and cheesy detritus; lower lobe practically normal. Mediastinum: Normal save for a few slightly enlarged lymph nodes. Pleural cavities and pericardium: Normal.

Abdomen.—Abdominal wall: The wound of the last laparotomy was unhealed and the edges were dark in colour and dry. Very little granulation tissue had formed. Peritoneal cavity: In the left iliolinguinal region there were some peritoneal inflammation and a small quantity of thin greyish pus, offensive in odour. A similar condition was met with in the pelvis. The general peritoneal cavity was walled off from these two areas by matted intestines and was normal. Viscera: The spleen, pancreas, kidneys, ureters, and pelvic organs were normal. The liver: On the upper surface of the right lobe at a point about two inches from the suspensory ligament and the same distance from the anterior border was a spot marking the point of attachment of an old adhesion. Incision into the substance of the liver at this point brought to light a bit of steel half an inch long, the remainder of the needle of which I removed a part at the fourth laparotomy. Immediately behind this was another needle, intact, two and a half inches in length. Both of these pieces of metal were almost disintegrated by rust. It is a curious fact that the hepatic tissue was as devoid of signs of irritation as though the needles had been thrust in after death. The rest of the liver was normal and contained no foreign bodies.

The gastro-intestinal tract.—Œsophagus: There were no dilatations strictures, ulcers, perforations, or scars. Just above the cardiac opening of the stomach an area about two inches in width and embracing the entire circumference showed unusual and intense pigmentation. Stomach: The mucous membrane showed merely the changes of a chronic gastritis. No ulcers were present. It is worthy of note, from a surgical standpoint, that the silk sutures placed in the stomach wall some 12 months previously to death were almost entirely absorbed, their situation being marked only by a few disorganised silken threads. The small intestine: A thin, transverse cicatrix indicated the point at which the enteroplastic operation at the third laparotomy had been done. At this point also the Lembert stitches had undergone absorption. Aside from several scars upon the peritoneal surface of the small intestine nothing else worthy of record was found. The large intestine: The puckered scars, already referred to, were the only abnormal features. The retroperitoneal tissue: In the median line, lying transversely upon the left renal vein, was a complete needle. It was entirely intact, except for a break a quarter of an inch from each end. These two little fractures allowed it to accommodate itself to the rounded contour of the vein. When the needle was removed I found it to be exceedingly friable, and it seems reasonable to believe that it was broken by the repeated hammering of the transmitted pulsations of the renal artery.

The *source* of some of the needles is still a question in my mind. A great majority of those found in the abdominal cavity were undoubtedly swallowed; she admitted this and their position in reference to the gastro-intestinal tract bore her out in her statement. At times, however, I had detected tiny red spots upon her abdomen which I believed to be the points of entrance of needles thrust into her body through the skin. She absolutely denied this, however, and as she had never been detected in the act this must remain a pure conjecture. The group of needles in her arm, too, would suggest some such procedure, although the migrations through the tissues of foreign bodies of all sorts have been the source of much comment and are, indeed, astonishing in their extent.

The *motive* which compelled this strange diet is also conjectural. Hysteria is undoubtedly the keynote. The assumption that her acts were in the nature of serious attempts to destroy herself is unwarranted. She said that family troubles were the cause of her peculiar actions and slyly intimated that she wished to commit suicide, but her manner during her confidential outbursts was not convincing. She told me, in all seriousness, that she had made several attempts at self-destruction previously to swallowing the needles but in every instance she fell suspiciously short of accomplishing her end. The notoriety to which she readily subjected herself appealed to her strongly and she felt that her position as a "celebrity" was indeed an enviable one. Another feature of interest is this: she had no areas of anæsthesia or of demonstrable paræsthesia, hence the presence of the needles must have caused distinct sensations of some sort; perhaps, in addition to the undoubted hysterical condition, or as part of it, there existed a perverted sexual appetite which found its gratification in sensations that normally would produce only pain. Incidentally, while she was under observation, the patient's menstruation was most irregular. She was the only one who could positively solve the problem of the motive. She was quite an entertaining person. The stories she had to tell of the various members of the medical profession with whom she came in contact, and her unconcealed mirth at their vain attempts to diagnose her case correctly, showed a sense of humour which, while certainly perverted, was remarkably acute. When not ill or in pain she was cheerful and happy. She took a childish pride in the extent and magnitude of the various operations to which she was subjected. But with all her perversity there was an undercurrent of shrewdness that was positively baffling. Naïve, irresponsible, roguish, sullen, and morose by turns, grateful always, she had won the personal interest and sympathy of her medical attendant by her unswerving loyalty.

I am indebted to Dr. John Aspell, upon whose service this patient was first admitted to Fordham Hospital, for the opportunity to see and report this interesting case. Dr. George Roe Lockwood kindly allowed me the use of the x-ray plates taken under his direction.

The literature of pins, needles, and other foreign bodies introduced into the body is large, but I have been able to find few cases which closely resemble this one. The following reported cases are of interest in this connexion.

Dr. Joseph D. Craig of Albany has kindly sent me a copy of a paper[1] in which he describes a case which resembles in some respects the one which I have reported. The following is a brief *résumé* of his case. A woman, aged 24 years, single, insane, but in fair physical health,

[1] Read before the Medical Society of the County of Albany on Feb. 10th, 1892.

was admitted to a hospital for the mentally unsound in 1890. Between the date of her admission and the day of her death, which was apparently caused by pulmonary tuberculosis, she had three profuse hæmorrhages from the bowels and occasional attacks of colicky pains in her abdomen. Careful examination of her abdomen for evidences of malignant disease revealed nothing. She was under observation for six months and symptoms referable to her gastro-intestinal tract were first observed five months before her death. The post-mortem examination brought to light, in the pyloric end of her stomach and in the duodenum, the following remarkable collection of foreign bodies: 51 pins; 16 needles (whole or part); three darning needles; 32 nails, varying in length from half an inch to three inches; two screws, one of them 2½ inches long; three pieces of iron, 3½ inches by ¼ inch; two pieces of wood; two rolls of hair; three pieces of cloth, 5 inches by 1 inch; and six hairpins. The metal pieces were very much corroded. My own case induces me to concur in Dr. Craig's remarks: "These substances are not often used with suicidal intent, but with a loss or *perversion* of the reasoning powers there is an inability to properly estimate the consequences of such an act." The italics are mine.

Dr. Judson B. Andrews reports[2] the case of another woman, also insane, a morphine *habitué*, whose mental unsoundness was ascribed to menstrual disturbance. She was supposed to have swallowed eight packages of needles just prior to her admittance to the asylum. Three months later needles began to appear at the surface of her body and were removed. In all, during the woman's stay in the asylum, a period of seven months intervening between her admission and her death, the almost incredible number of 286 needles were removed from her body and three were passed from the rectum. A post-mortem exploration disclosed 11 more. They were all rusted. Their presence caused little irritation and did not produce death.

Dr. H. Charlton Bastian of London reported[3] the following interesting case. A woman, aged 55 years, was admitted to the Guisborough Workhouse in November, 1886. She was fairly intelligent but exceedingly capricious and with a disposition which, I should imagine, somewhat resembled that of my patient. She gave a normal menstrual history and had had four children. She had once been confined in an asylum for the insane. She had no morbid appetites. Attacks of epilepsy occurred daily and sometimes she had several convulsions in 24 hours. There was no post-epileptic automatic state. No history could be obtained of any needle-swallowing. In 1887 the appearance of the needles was first noticed, and from that date until the time of Dr. Bastian's paper (Dec. 11th, 1891) 86 needles and one pin were removed from her body after having worked their own way to the surface. One needle was coughed up. As many as 34 needles were removed from her in two months in the year 1891. None were passed from the rectum. At no time was there any suppuration, no extravasations of blood occurred, and she was never made ill enough to go to bed as a result of the presence of the needles. A remarkable fact it is that none of these needles were removed from the right side of her body. A careful examination revealed no anæsthesia on the left side of the body but demonstrated that the prick of a pin was not recognised *as such* on *either* side. She gave absolutely no information concerning the way in which the needles were introduced; such statements as she would make were contradictory and manifestly untruthful. She never complained of any pain and she never vomited any blood.

A case which illustrates the association of sexual perversion and the introduction of needles into the body is that recorded by Dr. George H. Monks.[4] A woman, single, 21 years of age, normal physically, but stupid, was admitted to the Boston City Hospital in 1889. She was very ill, with a high temperature, vomiting, and abdominal pain. She had formed the habit of masturbation and was accustomed to gratify herself by means of massage of the ovaries through the abdominal wall. This procedure finally failed to give her the satisfaction she craved and she perversely hit upon the expedient of inserting hat-pins into her abdomen. An x ray picture showed three of these objects just above the pubic symphysis, apparently driven in the general direction of the ovaries and one in the upper part of the right thigh. All four pins were headless. A minor surgical procedure was sufficient to remove these pins and the recovery of the patient followed. The foreign bodies did not penetrate the cavity of the abdomen.

A great number of cases have been reported in which pins or needles have been swallowed and have been safely passed from the rectum. I suppose every general practitioner has been called at least once to allay the fears and quiet the nerves of some agitated mother whose "baby has swallowed a pin." And sometimes the baby *has* actually swallowed a pin. Such foreign bodies usually pass from the rectum without doing any harm except to the feelings of the family. The only result is that the baby is accorded the same considerate treatment in the matter of handling that is given to an infernal machine. Sometimes, however, these little objects stray from the path of the gastro-intestinal tract and give rise to puzzling conditions.

Dr. Sara A. Kime[5] reports the removal, by simple incision, of a needle two inches long, which caused a swelling upon the anterior aspect of a girl's arm. Careful inquiry into this young woman's history disclosed the fact that she had swallowed a needle some 12 years previously to the time she came to see Dr. Kime.

Dr. T. M. Winters[6] of Danville, Michigan, was consulted by a man, 62 years of age, who had an abscess in the groin. Dr. Winters opened this and brought to light a bit of steel two and a half inches long and half an inch in diameter. The patient had no recollection of having introduced this into his body in any way, but his mother vouchsafed the information that he had swallowed it at the tender age of one year.

Dr. J. P. Tuttle[7] reports that a little girl, aged five years, swallowed a bent pin. Ten days later, while voiding urine, the child complained of a sharp pain and upon examination the bent pin was found in the vessel. Dr. Tuttle believes that this pin came from the bladder but also points out the fact that it may have worked its way from the rectum into the vagina.

Dr. John Knott[8] removed a much eroded needle from a swelling on the inner surface of the thigh of a little girl, two years old. The mother said that the baby had swallowed this some nine months before, had immediately had a coughing and crying spell, and that it had caused no further trouble. Dr. Knott also reports two cases of the successful passage of pins in children, one three years old and the other 14 months, the former passing the pin in 16 days with blood-stained stools, while the latter passed the foreign body in eight days without symptoms.

Dr. Frank Hammond[9] of Philadelphia removed from the vagina of a woman, apparently suffering from metritis, a pin which she had swallowed seven months before. The metritis disappeared.

Dr. Arthur DeVoe[10] of Seattle varies the monotony by telling of the safe passage from the rectum in four days of an *open* safety-pin swallowed by a five-year old boy. It had produced no symptoms.

A rather circuitous route was taken by the pin mentioned by Dr. Allan I. Petyt.[11] A man who had had otorrhœa and deafness on both sides for some time was picking cerumen from his ear with an ordinary pin when it "slipped inside." A short time after he had a pricking sensation in his throat. Examination of his ear revealed only the old perforation and a probang passed into the œsophagus produced nothing. Two days later he had some pain in his stomach and three days later passed the pin from the rectum.

Major surgery has not had a particularly prominent part in the removal of such foreign bodies as pins and needles. Indeed, it seems that the protective forces of the body are capable of rising to almost any emergency.

Dr. George Woolsey[12] opened the abdomen of a woman for the removal of a right-sided pelvic mass. The patient had been referred to him as a case of ovarian cystoma. In an abscess, the walls of which were formed of matted intestines, Dr. Woolsey found a pin heavily incrusted with organic material. The inflamed appendix protruded into the abscess cavity, and it is through this organ that the surgeon believes that the pin found its way to the point at which it was

[2] American Journal of Insanity, July, 1872.
[3] Transactions of the Clinical Society of London, 1892, p. 88.
[4] Boston City Hospital Medical and Surgical Report, vol. xi., p. 143.
[5] Journal of the American Medical Association, 1888, vol. xii., p. 104.
[6] Physician and Surgeon, Ann Arbor, Michigan, 1889, vol. xi., p. 5.
[7] New York Medical Journal, 1891, vol. liv., p. 46.
[8] Medical Press and Circular, 1892, p. 934.
[9] American Medicine, Philadelphia, 1904, vol. vii., p. 502.
[10] Ibid., 1904, vol. viii., p. 914.
[11] Indian Medical Record, Calcutta, 1900, vol. xix., p. 82.
[12] Annals of Surgery, 1903, vol. xxxvii., p. 960.

impossible to get the girl to tell truthfully why she had inflicted such a peculiar form of punishment upon herself.

On Nov. 20th I removed a needle from the left breast of this patient, making in all 42 needles and two pins removed during the course of 13 months and by means of four major and four minor operative procedures. Shortly after this slight operation she began to complain of nausea. Her general health was bad and she rapidly lost flesh and strength. Soon she became unable to retain nourishment and was put to bed. Abdominal distension was marked and vomiting became persistent. It was evident that intestinal obstruction, due to adhesion, was rapidly being established. Rectal alimentation was undertaken and, together with gentle stimulation, was successful in bringing her strength up to a point where operation for the relief of the obstruction was possible.

On Dec. 14th I performed the fifth laparotomy. The abdomen was opened through the scar of the second and fourth laparotomies. A rapid survey of the abdominal cavity disclosed the obstructed area of the small intestine. The mass of coils was quickly freed of its numerous adhesions and the peritoneal toilet completed. As much as possible of the old cicatricial tissue was excised and the abdominal wound was closed with layer sutures of plain No. 2 catgut. Interrupted sutures of kangaroo tendon were placed in the muscular and fascial layers and the skin edges were approximated with a subcuticular suture of No. 1 catgut. This was the only one of the five laparotomies in which the material used for the closure of the wound was other than plain No. 2 catgut. I mention this merely because it is a singular fact that in the only case in which I used *unusual* precautions to guard against post-operative accident the precautions did not avail. On the following day the patient's temperature rose to 103° and she was slightly cyanosed. Examination of the chest discovered subcrepitant râles and prolonged high-pitched respiration over the upper and middle lobes of the right lung. She complained of no pain but was quite apathetic. 48 hours after operation the patient was seized with a violent and uncontrollable fit of coughing and immediately collapsed. A hasty examination disclosed the fact that, in spite of the strong suture material used and the extra precaution of a firm abdominal binder of adhesive plaster, the intestines were protruding. The patient was immediately taken to the operating room and under nitrous oxide and oxygen anæsthesia I repaired the abdominal wound with through-and-through sutures of kangaroo tendon and silkworm gut. Artificial respiration was repeatedly necessary during this procedure and only the most vigorous stimulation availed to prevent her death upon the operating table. The possession of an almost incredible vitality enabled her to rally, and 24 hours after this secondary suturing she was conscious and gradually gaining strength. Auscultation revealed complete consolidation of the upper and middle lobes of the right lung. With a dogged courage and tenacity which were a revelation to me the patient fought for her life until, overwhelmed by the pulmonary infection and the drain consequent upon the attempt to repair the abdominal wound, and vainly striving to throw off a hitherto unsuspected tubercular focus, she succumbed on Dec. 30th, 16 days after her last operation.

At the post-mortem examination a thorough fluoroscopic examination of the head, the neck, and the extremities revealed no foreign bodies. The following are brief details of the examination:—

Thorax.—Heart: Normal. Left lung: Intense hypostatic congestion and a few scattered tubercles. Right lung: Upper and middle lobes filled with tubercles and small cavities containing pus and cheesy detritus; lower lobe practically normal. Mediastinum: Normal save for a few slightly enlarged lymph nodes. Pleural cavities and pericardium: Normal.

Abdomen.—Abdominal wall: The wound of the last laparotomy was unhealed and the edges were dark in colour and dry. Very little granulation tissue had formed. Peritoneal cavity: In the left iliofinguinal region there were some peritoneal inflammation and a small quantity of thin greyish pus, offensive in odour. A similar condition was met with in the pelvis. The general peritoneal cavity was walled off from these two areas by matted intestines and was normal. Viscera: The spleen, pancreas, kidneys, ureters, and pelvic organs were normal. The liver: On the upper surface of the right lobe at a point about two inches from the suspensory ligament and the same distance from the anterior border was a spot marking the point of attachment of an old adhesion. Incision into the substance of the liver at this point brought to light a bit of steel half an inch long, the remainder of the needle of which I removed a part at the fourth laparotomy. Immediately behind this was another needle, intact, two and a half inches in length. Both of these pieces of metal were almost disintegrated by rust. It is a curious fact that the hepatic tissue was as devoid of signs of irritation as though the needles had been thrust in after death. The rest of the liver was normal and contained no foreign bodies.

The gastro-intestinal tract.—Œsophagus: There were no dilatations strictures, ulcers, perforations, or scars. Just above the cardiac opening of the stomach an area about two inches in width and embracing the entire circumference showed unusual and intense pigmentation. Stomach: The mucous membrane showed merely the changes of a chronic gastritis. No ulcers were present. It is worthy of note, from a surgical standpoint, that the silk sutures placed in the stomach wall some 12 months previously to death were almost entirely absorbed, their situation being marked only by a few disorganised silken threads. The small intestine: A thin, transverse cicatrix indicated the point at which the enteroplastic operation at the third laparotomy had been done. At this point also the Lembert stitches had undergone absorption. Aside from several scars upon the peritoneal surface of the small intestine nothing else worthy of record was found. The large intestine: The puckered scars, already referred to, were the only abnormal features. The retroperitoneal tissue: In the median line, lying transversely upon the left renal vein, was a complete needle. It was entirely intact, except for a break a quarter of an inch from each end. These two little fractures allowed it to accommodate itself to the rounded contour of the vein. When the needle was removed I found it to be exceedingly friable, and it seems reasonable to believe that it was broken by the repeated hammering of the transmitted pulsations of the renal artery.

The *source* of some of the needles is still a question in my mind. A great majority of those found in the abdominal cavity were undoubtedly swallowed; she admitted this and their position in reference to the gastro-intestinal tract bore her out in her statement. At times, however, I had detected tiny red spots upon her abdomen which I believed to be the points of entrance of needles thrust into her body through the skin. She absolutely denied this, however, and as she had never been detected in the act this must remain a pure conjecture. The group of needles in her arm, too, would suggest some such procedure, although the migrations through the tissues of foreign bodies of all sorts have been the source of much comment and are, indeed, astonishing in their extent.

The *motive* which compelled this strange diet is also conjectural. Hysteria is undoubtedly the keynote. The assumption that her acts were in the nature of serious attempts to destroy herself is unwarranted. She said that family troubles were the cause of her peculiar actions and slyly intimated that she wished to commit suicide, but her manner during her confidential outbursts was not convincing. She told me, in all seriousness, that she had made several attempts at self-destruction previously to swallowing the needles but in every instance she fell suspiciously short of accomplishing her end. The notoriety to which she readily subjected herself appealed to her strongly and she felt that her position as a "celebrity" was indeed an enviable one. Another feature of interest is this: she had no areas of anæsthesia or of demonstrable paræsthesia, hence the presence of the needles must have caused distinct sensations of some sort; perhaps, in addition to the undoubted hysterical condition, or as part of it, there existed a perverted sexual appetite which found its gratification in sensations that normally would produce only pain. Incidentally, while she was under observation, the patient's menstruation was most irregular. She was the only one who could positively solve the problem of the motive. She was quite an entertaining person. The stories she had to tell of the various members of the medical profession with whom she came in contact, and her unconcealed mirth at their vain attempts to diagnose her case correctly, showed a sense of humour which, while certainly perverted, was remarkably acute. When not ill or in pain she was cheerful and happy. She took a childish pride in the extent and magnitude of the various operations to which she was subjected. But with all her perversity there was an undercurrent of shrewdness that was positively baffling. Naïve, irresponsible, roguish, sullen, and morose by turns, grateful always, she had won the personal interest and sympathy of her medical attendant by her unswerving loyalty.

I am indebted to Dr. John Aspell, upon whose service this patient was first admitted to Fordham Hospital, for the opportunity to see and report this interesting case. Dr. George Roe Lockwood kindly allowed me the use of the x-ray plates taken under his direction.

The literature of pins, needles, and other foreign bodies introduced into the body is large, but I have been able to find few cases which closely resemble this one. The following reported cases are of interest in this connexion.

Dr. Joseph D. Craig of Albany has kindly sent me a copy of a paper[1] in which he describes a case which resembles in some respects the one which I have reported. The following is a brief *résumé* of his case. A woman, aged 24 years, single, insane, but in fair physical health,

[1] Read before the Medical Society of the County of Albany on Feb. 10th, 1892.

was admitted to a hospital for the mentally unsound in 1890. Between the date of her admission and the day of her death, which was apparently caused by pulmonary tuberculosis, she had three profuse hæmorrhages from the bowels and occasional attacks of colicky pains in her abdomen. Careful examination of her abdomen for evidences of malignant disease revealed nothing. She was under observation for six months and symptoms referable to her gastro-intestinal tract were first observed five months before her death. The post-mortem examination brought to light, in the pyloric end of her stomach and in the duodenum, the following remarkable collection of foreign bodies: 51 pins; 16 needles (whole or part); three darning needles; 32 nails, varying in length from half an inch to three inches; two screws, one of them 2½ inches long; three pieces of iron, 3½ inches by ¼ inch; two pieces of wood; two rolls of hair; three pieces of cloth, 5 inches by 1 inch; and six hairpins. The metal pieces were very much corroded. My own case induces me to concur in Dr. Craig's remarks: "These substances are not often used with suicidal intent, but with a loss or *perversion* of the reasoning powers there is an inability to properly estimate the consequences of such an act." The italics are mine.

Dr. Judson B. Andrews reports[2] the case of another woman, also insane, a morphine *habitué*, whose mental unsoundness was ascribed to menstrual disturbance. She was supposed to have swallowed eight packages of needles just prior to her admittance to the asylum. Three months later needles began to appear at the surface of her body and were removed. In all, during the woman's stay in the asylum, a period of seven months intervening between her admission and her death, the almost incredible number of 286 needles were removed from her body and three were passed from the rectum. A post-mortem exploration disclosed 11 more. They were all rusted. Their presence caused little irritation and did not produce death.

Dr. H. Charlton Bastian of London reported[3] the following interesting case. A woman, aged 55 years, was admitted to the Guisborough Workhouse in November, 1886. She was fairly intelligent but exceedingly capricious and with a disposition which, I should imagine, somewhat resembled that of my patient. She gave a normal menstrual history and had had four children. She had once been confined in an asylum for the insane. She had no morbid appetites. Attacks of epilepsy occurred daily and sometimes she had several convulsions in 24 hours. There was no post-epileptic automatic state. No history could be obtained of any needle-swallowing. In 1887 the appearance of the needles was first noticed, and from that date until the time of Dr. Bastian's paper (Dec. 11th, 1891) 86 needles and one pin were removed from her body after having worked their own way to the surface. One needle was coughed up. As many as 34 needles were removed from her in two months in the year 1891. None were passed from the rectum. At no time was there any suppuration, no extravasations of blood occurred, and she was never made ill enough to go to bed as a result of the presence of the needles. A remarkable fact it is that none of these needles were removed from the right side of her body. A careful examination revealed no anæsthesia on the left side of the body but demonstrated that the prick of a pin was not recognised *as such* on *either* side. She gave absolutely no information concerning the way in which the needles were introduced; such statements as she would make were contradictory and manifestly untruthful. She never complained of any pain and she never vomited any blood.

A case which illustrates the association of sexual perversion and the introduction of needles into the body is that recorded by Dr. George H. Monks.[4] A woman, single, 21 years of age, normal physically, but stupid, was admitted to the Boston City Hospital in 1889. She was very ill, with a high temperature, vomiting, and abdominal pain. She had formed the habit of masturbation and was accustomed to gratify herself by means of massage of the ovaries through the abdominal wall. This procedure finally failed to give her the satisfaction she craved and she perversely hit upon the expedient of inserting hat-pins into her abdomen. An x ray picture showed three of these objects just above the pubic symphysis, apparently driven in the general direction of the ovaries and one in the upper part of the right thigh. All four pins were headless. A minor surgical procedure was sufficient to remove these pins and the recovery of the patient followed. The foreign bodies did not penetrate the cavity of the abdomen.

A great number of cases have been reported in which pins or needles have been swallowed and have been safely passed from the rectum. I suppose every general practitioner has been called at least once to allay the fears and quiet the nerves of some agitated mother whose "baby has swallowed a pin." And sometimes the baby *has* actually swallowed a pin. Such foreign bodies usually pass from the rectum without doing any harm except to the feelings of the family. The only result is that the baby is accorded the same considerate treatment in the matter of handling that is given to an infernal machine. Sometimes, however, these little objects stray from the path of the gastro-intestinal tract and give rise to puzzling conditions.

Dr. Sara A. Kime[5] reports the removal, by simple incision, of a needle two inches long, which caused a swelling upon the anterior aspect of a girl's arm. Careful inquiry into this young woman's history disclosed the fact that she had swallowed a needle some 12 years previously to the time she came to see Dr. Kime.

Dr. T. M. Winters[6] of Danville, Michigan, was consulted by a man, 62 years of age, who had an abscess in the groin. Dr. Winters opened this and brought to light a bit of steel two and a half inches long and half an inch in diameter. The patient had no recollection of having introduced this into his body in any way, but his mother vouchsafed the information that he had swallowed it at the tender age of one year.

Dr. J. P. Tuttle[7] reports that a little girl, aged five years, swallowed a bent pin. Ten days later, while voiding urine, the child complained of a sharp pain and upon examination the bent pin was found in the vessel. Dr. Tuttle believes that this pin came from the bladder but also points out the fact that it may have worked its way from the rectum into the vagina.

Dr. John Knott[8] removed a much eroded needle from a swelling on the inner surface of the thigh of a little girl, two years old. The mother said that the baby had swallowed this some nine months before, had immediately had a coughing and crying spell, and that it had caused no further trouble. Dr. Knott also reports two cases of the successful passage of pins in children, one three years old and the other 14 months, the former passing the pin in 16 days with blood-stained stools, while the latter passed the foreign body in eight days without symptoms.

Dr. Frank Hammond[9] of Philadelphia removed from the vagina of a woman, apparently suffering from metritis, a pin which she had swallowed seven months before. The metritis disappeared.

Dr. Arthur DeVoe[10] of Seattle varies the monotony by telling of the safe passage from the rectum in four days of an *open* safety-pin swallowed by a five-year old boy. It had produced no symptoms.

A rather circuitous route was taken by the pin mentioned by Dr. Allan I. Petyt.[11] A man who had had otorrhœa and deafness on both sides for some time was picking cerumen from his ear with an ordinary pin when it "slipped inside." A short time after he had a pricking sensation in his throat. Examination of his ear revealed only the old perforation and a probang passed into the œsophagus produced nothing. Two days later he had some pain in his stomach and three days later passed the pin from the rectum.

Major surgery has not had a particularly prominent part in the removal of such foreign bodies as pins and needles. Indeed, it seems that the protective forces of the body are capable of rising to almost any emergency.

Dr. George Woolsey[12] opened the abdomen of a woman for the removal of a right-sided pelvic mass. The patient had been referred to him as a case of ovarian cystoma. In an abscess, the walls of which were formed of matted intestines, Dr. Woolsey found a pin heavily incrusted with organic material. The inflamed appendix protruded into the abscess cavity, and it is through this organ that the surgeon believes that the pin found its way to the point at which it was

[2] American Journal of Insanity, July, 1872.
[3] Transactions of the Clinical Society of London, 1892, p. 88.
[4] Boston City Hospital Medical and Surgical Report, vol. xi., p. 143.
[5] Journal of the American Medical Association, 1888, vol. xii., p. 104.
[6] Physician and Surgeon, Ann Arbor, Michigan, 1889, vol. xi., p. 5.
[7] New York Medical Journal, 1891, vol. liv., p. 46.
[8] Medical Press and Circular, 1892, p. 934.
[9] American Medicine, Philadelphia, 1904, vol. vii., p. 502.
[10] Ibid., 1904, vol. viii., p. 914.
[11] Indian Medical Record, Calcutta, 1900, vol. xix., p. 82.
[12] Annals of Surgery, 1903, vol. xxxvii., p. 950.

discovered. The woman had no recollection of having swallowed any such thing, but said that she was in the habit of putting pins in her mouth.

Dr. Forbes Hawkes[13] reports a case which has traumatism as its essential feature. An Italian labourer sewed a button on his vest and then stuck the threaded needle in his cravat. He indulged himself in true Italian style by fighting with some compatriots and received a sharp blow upon the epigastrium. He experienced a pricking sensation and a few days later noticed a scratch over the region of his stomach. Ten days later the man became quite ill, and all symptoms pointing to some grave intra-abdominal condition laparotomy was resorted to. An abscess cavity was found beneath the liver and from this a pint and a half of greenish pus and one needle, threaded, were evacuated. Recovery followed.

Dr. Charles H. Peck[14] removed a long upholstery tack from the appendix of a patient who had suffered from recurrent attacks of appendicular colic. He reports that while the appendix contained two fæcal concretions in addition to this foreign body, there was no inflammation.

The low mortality of cases of this nature is indeed surprising. In the two cases of insanity which I have quoted above it is distinctly stated that the presence of the foreign bodies did *not* contribute to the fatal result, in spite of the variety and multiplicity of the objects found.

The two cases reported by Dr. F. C. Bottomley[15] would seem to offer negative proof of the statement that there is "safety in numbers." The first was that of a man, 56 years old, who had for four days suffered great pain in his back, high up between the shoulder blades, and had had several attacks of hematemesis during that time. When admitted to the Royal Free Hospital, London, the temperature was 102° F. and for the two days between admission and death he suffered excruciating pain and had repeated attacks of bloody vomiting. The patient's temperature ranged between 102° and 104° and he died after an illness of only six days' duration. The post-mortem findings were as follows. The upper dorsal portion of the aorta was perforated by a broken needle which also lay partly in a cavity between the aorta and the œsophagus. This cavity was small, was filled with blood and clot, and had a direct communication with the canal of the œsophagus. The second case was that of a woman, aged 35 years, who suddenly collapsed in the street. She was taken to the same hospital and examination revealed a tent-like, pulsating swelling over the cardiac area. A small incision was made over this and a needle, an inch and a half long, was removed. The woman regained consciousness and gave the meagre information that she had had pain in her left breast and had noticed a "tumour" for two days previously to her attack of syncope. Shortly after talking the patient became cyanosed and restless and died. The post-mortem findings were as follows. A pericardium distended with three-quarters of a pint of blood; a perforation a quarter of an inch in diameter situated at the base of the right ventricle, near the origin of the pulmonary artery; numerous scratches elsewhere upon the wall of the right ventricle.

An interesting necropsy finding is reported by Dr. Charles J. Cooke.[16] A girl, aged eight years, swallowed a needle. Four days later Dr. Cooke found her suffering from meningitis, from which she died after having been under his care for six days. A necropsy showed a needle an inch and a half long imbedded firmly in the posterior wall of the pharynx on a level with the floor of the nasal cavity. It projected upward and backward. Manipulation dislodged it before accurate observation of the position of its upper end could be made, but Dr. Cooke believes that it penetrated and infected the sheath of some nerve and produced, by extension of the infection, the fatal meningitis which was demonstrated.

Such an interesting subject as the ingestion of pins and needles could scarcely be dismissed without mentioning its connexion with the much-mooted question of the causation of cancer. Dr. Knott's paper, quoted above, contains this paragraph: "Godelias and Moniere have each recorded a case of cancerous stricture of the œsophagus attributable to the swallowing of a pin a long time before. In each case the pin was found imbedded in the cancerous mass."

New York.

[13] Annals of Surgery, 1903, vol. xxxvii., p. 950.
[14] Ibid.
[15] Brit. Med. Jour., 1896, vol. i., p. 1640.
[16] THE LANCET, Feb. 22nd, 1896, p. 479.

A STUDY OF FIVE CASES OF APPENDICOSTOMY.

BY J. LIONEL STRETTON, M.R.C.S. ENG., L.R.C.P. LOND.,
SENIOR SURGEON TO THE KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.

THE operation of appendicostomy has been described as of the simplest possible nature—"a small button-hole incision through which the finger is passed and through which the appendix is withdrawn and fixed in position." This proceeding may be possible in some cases, but my experience is that the finding of the appendix is not so easily accomplished. There is no certainty as to its situation or condition. In three of my five cases (Cases 1, 2, and 5) it was curved and adherent, and in neither of them could it have been brought out of such an incision. I have found it preferable to make an opening sufficiently large to allow of easy manipulation, and latterly I have increased this in order that I may make a thorough examination of the abdominal contents. The increased risk is infinitesimal, while the conditions indicating the desirability of the performance of the operation are often obscure. With an incision of the length which I advise it is possible to fix the appendix in the most suitable position for the future passage of the catheter. I fix it outside by means of a pin passed through its mesentery and close the wound round it in layers, being careful not to constrict it too tightly. It is a disadvantage to put any sutures through its walls. It may be amputated at the end of 48 hours, but in future cases I shall leave it for a fortnight or three weeks unless there is pressing need for immediate irrigation. In Cases 1 and 5 its early removal was the cause of wound infection, a risk which must always be present, and if it occurs is a source of considerable trouble. It not only prolongs the process of healing but, owing to granulations and the retraction of the orifice of the appendix, it causes difficulty in passing the catheter and ultimate contraction of the opening. To show that this experience is not confined to myself I may cite a case reported in THE LANCET of Dec. 28th, 1907 (p. 1819), by Dr. J. A. Pottinger, who says: "The catheter was at first removed between each occasion of irrigation, but it was found that even in 24 hours the wound closed so owing to the growth of granulations that it was somewhat difficult to find the opening and latterly a soft rubber instrument was used and left in." Since the operation was brought into prominence in this country I have performed it on five different occasions. The following are the notes of the cases operated upon:—

CASE 1.—The patient, a female, aged 29 years, was admitted to the Kidderminster Infirmary in October, 1905, on account of mucous colitis and obstinate constipation. She had suffered for 14 years and no treatment had benefited her.

On Nov. 7th the appendix was exposed through the usual incision. It was a long appendix, curved, horseshoe-shape, which necessitated dividing the meso-appendix to bring it out. A suture on each side fixed it to the skin. On the second day after the operation the appendix was cut off level with the skin and irrigation was commenced with a satisfactory result. The orifice of the appendix sloughed and by the end of a week it was impossible to find a passage for the catheter. A second operation was performed in order to fix the orifice at the skin level, and a piece of indiarubber tube was left in for a few days. The patient complained of the pain caused by the passage of the catheter and became so unruly that it was found advisable to discharge her on Jan. 18th, 1906. The orifice to the appendix was then visible. She returned, however, in May and begged to have the part reopened. On examination the orifice had completely disappeared. Under ether the cicatrix was excised and the orifice was discovered immediately beneath. It was sutured up to the skin and irrigation was commenced. The patient was soon able to pass the catheter to perform the irrigation herself and she derived great benefit therefrom. The bowels acted freely and there was much less mucus. She was discharged on the 25th. On March 28th, 1907, she returned again. She had allowed the opening to contract almost to a pin point. With great difficulty a fine probe was introduced and then a No. 1 catheter. It was dilated up to No. 5 and irrigation was again commenced. She was cautioned as to the necessity of keeping the orifice patent and again discharged, but she had not the courage to continue the treatment. She was seen again in October when the orifice was found to be contracted as it had been in March. It was evidently quite useless to persevere any further so I decided to perform an ileo-sigmoidostomy.

CASE 2.—The patient, a female, aged 19 years, was admitted to the infirmary in March, 1906, on account of obstinate constipation. It was impossible to regulate the bowels by drugs and diet.

On April 3rd the appendix was exposed through an oblique incision; it was curved (horseshoe shaped) and the tip was adherent posteriorly. It was brought out and fixed by a pin through its mesentery. The abdominal wound was closed in layers. On the fourth day after the operation the appendix was cut off level with the skin; on the fifth day the pin was removed and irrigation of the bowel was commenced. The administration of a pint of water with half an ounce of sulphate

of magnesium was followed by an action in from five to ten minutes. Various solutions and drugs were tried and it was found that two drachms of olive oil was the most suitable. This acted perfectly and she was discharged on May 4th. I saw her about six months later and I have heard from her medical attendant quite recently. She continues perfectly well, the opening remains patent and gives her no trouble, and the oil still acts satisfactorily.

CASE 3.—The patient, a female, aged 66 years, was admitted to the infirmary in May, 1906, on account of mucous colitis and constipation. Her medical attendant was desirous that the operation of appendicostomy should be performed upon her. She was a well-nourished woman. She complained of pain in the abdomen chiefly affecting the left side, of constipation, and of the passage of mucus. The abdomen was not distended or tender. Per rectum and per vaginam examination did not reveal anything. A large quantity of mucus was passed with the motions.

An operation was performed on May 11th in the same way as in Case 1. The appendix was cut off level with the skin on the fourth day and irrigation was then commenced. The administration of five pints of saline solution followed by two pints of solution of silver nitrate (one grain to a pint) acted immediately and brought away a large quantity of mucus and fæces. This was continued daily. Three days later the opening into the appendix was found to have retracted below the skin to the level of the deep fascia, probably owing to the commencement of irrigation before it was sufficiently adherent. It was still quite easy for us to pass the catheter but it would have been difficult for the patient herself to have done so. On June 3rd (just over three weeks later) it was noticed for the first time that some of the fluid injected escaped by the side of the catheter. This amount increased daily and by the 7th practically all the fluid injected returned through the opening. This caused a suspicion of some obstruction lower down. On the 9th an incision was made in the left side to expose the sigmoid flexure. A malignant stricture was discovered and a colotomy was performed. The patient was discharged on the 21st. The medical attendant informs me that the patient lived about six months and that the appendicostomy opening closed up and did not give any trouble.

CASE 4.—The patient, a female, aged 31 years, was admitted to the infirmary in February, 1907, on account of obstinate constipation. She had had three attacks of pain in the right iliac region since September. Examination revealed some tenderness on deep pressure over the region of the cæcum. Nothing was discovered per vaginam or per rectum.

On Feb. 5th the appendix was exposed through the usual incision. It contained a small concretion and it was brought out and held in position by a pin through its mesentery. The wound was closed in layers, taking care not to strangulate the appendix or its mesentery. On the third day following the appendix with its contained concretion was cut off level with the skin. Irrigation was commenced on the day following. The patient was discharged on March 16th. She was much improved in health and could manage the irrigation quite easily. She has been seen several times since and she continues the irrigation which keeps her bowels regular and she feels quite well.

CASE 5.—The patient, a male, aged 50 years, was admitted to the infirmary in January, 1908. He had suffered for several years from mucous colitis.

An operation was performed on Jan. 8th. The appendix was exposed through the usual incision, three inches long, and the contents of the abdomen were explored with a negative result. The appendix was curved, necessitating partial division of its mesentery; it was fixed in the wound as in the previous case; it was cut off level with the skin on the 11th, and irrigation was commenced. Following this there was a considerable amount of suppuration in the wound necessitating an india-rubber catheter being kept in position. The effect of the irrigation was immediately satisfactory and all the bowel symptoms have disappeared.

In considering these five cases I think I can fairly claim that each of them derived benefit from the operation. In Case 3 it enabled us to diagnose the cause of the mucous colitis from which the patient had suffered and to perform a colotomy for its relief. The patient had been examined by several physicians without the condition being suspected and but for the appendicostomy it would have remained undiscovered until complete obstruction had occurred, when the risk of operation would have been far greater. The case indicates the importance of bearing in mind that mucous colitis may be only a symptom of organic disease. It is for this reason that I advocate intra-abdominal exploration at the time of operation. It has been suggested that the appendix can be dilated sufficiently to act in lieu of a colotomy. This would have been a suitable case for such a proceeding, but I was unable so to dilate it. From my experience I do not think that such a procedure is practicable in many cases.

The result of the treatment in the other four cases has been satisfactory so long as it has been continued. The mucus has disappeared within three weeks of irrigation. The fluid used consisted of two pints of saline solution followed by one pint of silver nitrate solution (one grain to the pint). At the end of three weeks the latter was omitted and a pint of saline solution only was used. In Case 2 it was found that two drachms of olive oil were sufficient to keep the bowels acting. I have seen this patient within the last month and find that this is still satisfactory.

Unfortunately many of these subjects are neurotic and it may be impossible to persuade them to continue the irrigation regularly. If they do not, the orifice is liable to contract; this is the more likely if there has been any wound infection at the time of operation. It is a difficult matter to dilate the orifice and when it is accomplished it will probably be allowed to contract again. The patient in Case 1 was an example of this class. In such cases a more radical procedure is indicated, but the preliminary performance of this operation does not materially add to the risk and gives patients a chance of relief by an operation with a lower mortality.

In none of the cases has there resulted the slightest discomfort. The orifice does not emit any discharge and is easily kept clean. The mucous colitis is easily controlled and the action of the bowels can be regulated with certainty.

Kidderminster.

CONGENITAL HYPERTROPHIC STENOSIS OF THE PYLORUS AND ITS MEDICAL TREATMENT.[1]

BY GEORGE CARPENTER, M.D. LOND.,

CHAIRMAN OF COUNCIL OF THE SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN; MEMBRE CORRESPONDANT DE LA SOCIÉTÉ DE PÉDIATRIE DE PARIS.

FOR some time I have been on the watch for a clinical example of pyloric obstruction in an infant which would convince me as to its undoubted hypertrophic nature and which would respond to medical treatment. The case which I presently shall relate satisfies those requirements. I have been well acquainted with dyspeptic troubles in infancy without pyloric hypertrophy which clinically give all the symptoms of that complaint except one important finding, and that is the pyloric tumour. Cases such as these I, too, have had my successes with medically. But if I were to enumerate all my experiences in that respect, then I also would be able to bring to your notice a magnificent array of cases of congenital hypertrophic stenosis of the pylorus in place of this solitary example of a successful case medically treated.

It is but the other day, figuratively speaking, that serious attention was drawn to this condition, and the great number of cases that have fallen to the share of, and have been recorded by, some observers must be due to the inclusion in their statistics of the functional with the organic variety, of the very common with the rare, for it cannot be allowed that hypertrophic stenosis is any other than a rare condition. On the other hand, infantile cases of functional gastric disturbance with symptoms suggesting pyloric stenosis are very common. Some such explanation must be held accountable for the high percentage of cases which have fallen to the share of some writers on this subject in so short a time. But I must confess that I did not think it possible to cure such examples of congenital hypertrophic stenosis of the pylorus as have come within my clinical experience without surgical aid. In the cases of that complaint which I have treated the pyloric tumour was hard like gristle, cut like the cartilage of the knee, was felt through the abdominal wall, the infants were operated upon, and they all died. In the case which I am about to relate the patient presented symptoms and physical signs precisely similar to, and identical with, those just enumerated. By reason of his wasted state and the poor condition of his vitality he was not fit to undergo surgical operation and would, I doubt not, have died if he had been operated upon.

It is remarkable how many recorded cases there are where no pyloric tumour was felt and where the typical appearance was found either at operation or in the post-mortem room. But notwithstanding these repeated failures to detect the tumour during life, I must confess that the diagnosis of congenital hypertrophic stenosis of the pylorus does not satisfy me unless the tumour be felt. Perhaps the failure to find it may in some cases have been due to want of experience of what to feel for, but I think that if greater care had been exercised in making the abdominal examinations the little tumours would not have so frequently remained undiscovered. Granted, however, that due care had been taken, I think I can offer another explanation for failure to feel the tumour. By the usual method of examination—that is, by palpation—the tumour is apt to recede from the fingers and to drop deep down into the abdominal cavity. Now, if in addition to the usual method of abdominal exploration the examiner grasps the abdominal parietes and the underlying parts with the

[1] A paper read before the Society for the Study of Disease in Children on Jan. 17th, 1908.

fingers and thumb from right to left and *vice versâ*, he will the more readily find the characteristic small hard mass, and not only detect it but gauge its size and shape and even note the accompanying induration of the stomach walls. In thin babies no difficulty should be experienced, and a plump healthy infant with this condition is not likely to come under medical observation. Prior to my own experience about to be related, although preserving a perfectly open mind on the subject, I doubted whether the true explanation had been arrived at for the pyloric tumours which had been found in the cases treated successfully medically. But now I no longer have any doubt, and I am perfectly satisfied that cases of congenital hypertrophic stenosis of the pylorus can be relieved by medical means and without the surgeon's aid.

Hopeless in regard to medical treatment as the typical hypertrophied pylorus appears to be in the post-mortem room—the tightly shut orifice, the thick gristle-like walls, the cervix and os uteri-like appearance on its duodenal aspect, its capacity securely to hold a dilated stomachful of water—I do not think this after-death state denotes its natural condition during life. I think that tight post-mortem contraction of the hypertrophied circular muscular fibres occludes the pylorus, and this prevents the exit of water when tested in the usual way. Indeed, quite apart from other reasons I know that this must be so, because I have seen the channel patent (No. 4 catheter) during life, even in an extreme case of this interesting condition.

There are two hypotheses as to the causation of congenital hypertrophic stenosis of the pylorus—viz., (1) that this condition is a muscle hypertrophy not only of the pylorus but of the rest of the stomach, and that it is secondary to a functional disturbance (Heubner[2]); and (2) that it is a primary malformation or new growth. Heubner does not state definitely whether his conclusions were based upon his own post-mortem experience; in any case he could not have performed more than one necropsy as he had only one death. And secondly, from the remarks in his paper which was read before the Children's Section of the seventy-eighth Versammlung Deutscher Naturforscher und Aerzte in Stuttgart, he gives the impression that he bases his conclusions on necropsies performed by Wernstedt. He claims 49 cases out of a clinic of 10,000 children. In regard to the two views I am in favour of the congenital hypothesis for these reasons: (1) the condition has been found in the fœtus (Dent); (2) symptoms frequently arise immediately after birth in cases where it is known to exist; and (3) the associated muscle hypertrophy of the stomach is not a general hypertrophy of the organ, or if it be a general hypertrophy of the viscus the part near the pylorus, to the extent of a quarter or one-third of the pyloric end, is immensely thicker in comparison. The stomach being a hollow viscus I think hypertrophy would be general rather than partial if that hypertrophy were due to increased work. It is so, as a general rule, in the bladder with a large prostate, the nearest resemblance to it that I can think of, whatever may be the exceptions to that rule, if there be any. I have made microscopical examinations in three cases and I have found in the pylorus thickening of *all* the muscular layers, including the muscularis mucosæ. The longitudinal fibres were two or three times larger than they should have been, but they were not hypertrophied to the same comparative degree as the circular, which were very powerful. Further, there was an increase in the fibrous tissue, and the submucous layer was larger and thicker than normal. The mucous membrane was healthy. The thickened pylorus ended abruptly at the duodenal side (cervix uteri-like appearance), but gradually tapered off into the stomach walls on the opposite side. On the outside it was constricted in the centre. In the stomach of one case all the layers were hypertrophied, but especially in the pyloric fourth, and the circular fibres were equal to the two others combined. In the others there was considerable hypertrophy of the stomach walls of the pyloric third or fourth. The submucosa was thicker than natural. The mucous membrane was natural.[3]

In regard to naked-eye appearances in this condition the stomach may or may not be dilated, and it is not necessarily dilated in even pronounced instances. On the other hand, it may be very large. Peristalsis may or may not be seen. This occurs in the undilated as well as in the dilated organs, and is best seen when the infant is marasmic, and it is a late, not an early, symptom.

Although symptoms in cases of hypertrophic stenosis often start from the birth, yet this is by no means invariably the case, and sometimes it is one, two, three, four, or more weeks before their onset. The infant then commences to vomit. If this be not checked other symptoms rapidly supervene and steady deterioration results. When vomiting occurs in grim earnest, constipation and scanty urine are its associates. Vomiting may be both irregular as to time and in quantity; the vomit may be small or consist of accumulated feeds. There may be nothing special about the act or the stomach contents may be pumped up violently on to the floor. In a well-marked case bile is absent from the vomit. The stools may be meconium-like, sage green, dark green, dark brown, or tarry. But even these may disappear and be followed temporarily by natural motions. In some cases the symptoms that attract most attention are constipation and marasmus with a dyspeptic background. Prior to all these symptoms, however, it often happens that the child has enjoyed good health and there has been no occasion to suspect any organic gastric malady. Perhaps the baby has been taken from the breast and put on the bottle, and then its troubles began. Although the infant in such cases has displayed no symptoms, I do not think that there is any reason to doubt that the thickened pylorus has been comfortably tucked away all the time. Granted that this be so, why does it suddenly become troublesome?

Cases with classical symptoms of stenosis of the pylorus have succumbed to the malady and post mortem the pylorus has been found normal. The explanation that has been given for cases such as these is that the patients were suffering from pyloric spasm. Granted that pyloric spasm can kill an infant with a healthy pylorus it can as readily accomplish the act with a hypertrophied pylorus. Graft the spasmodic affection on the organic and the explanation of the symptoms is at hand. Perhaps the over-powerful strongly acting pylorus causes congestion or œdema of the overlying mucous membrane with blocking of its lumen, or there may be other explanations for its local congestion, analogous to the congestion of the mucous membrane covering the urethral stricture of a Saturday night reveller. Judged by the irritability of the stomach displayed in these cases the speedy response by waves of gastric peristalsis of regular or irregular rhythm to even so little as the lightest tap over it, it is likely that the pylorus also is in an equally excitable condition. It may be that in such circumstances the mere mechanical irritation of the food tends to keep the pylorus in a constant state of reflex spasm, let alone any toxic action on the muscles or nerve centres that might be supposed to arise from the complex chemical products retained in the stomach. But whatever may be the explanation of the obstruction at the pylorus I have no doubt that the causes for it are as complex and multifarious as are the causes for gastric disturbances that occur in the dyspeptic infant, for it is the dyspepsia that is at the bottom of it, and which is the important factor in these cases. This is not based solely on hypothetical conditions, for have we not pathological evidence to support it? A suckling infant under the care of Bloch[4] was completely cured after having had four weeks' symptoms of congenital pyloric obstruction; he succumbed six months later to an attack of acute enteritis. The pylorus was found just as hypertrophied and just as constricted as in children who die from pyloric stenosis. A study of the vomited matters has thrown no special light on the condition. In some cases there has been no free hydrochloric acid, in others this has been present, in others the vomit has been "intensely acid and sour-smelling," and again in others mucus and lactic acid have been detected, but no free hydrochloric acid.

Dismissing the question of hypertrophic stenosis of the pylorus from the mind for the moment and turning to the infant with a normal pylorus we are daily faced by the problem of how to cater for infants with weak digestions. It is occasionally brought to our notice that the ideal infant food, the mother's milk, is not always the innocuous baby-growing material that it is supposed to be—quite the opposite. There are some infantile digestions that cannot tolerate mother's milk, be it that of the child's own mother or that supplied by foster-mothers—not one foster-mother but a succession of them. Such infants become sick and they

[2] Monatschrift für Kinderheilkunde, Band v., S. 355, 1907.
[3] Reports of the Society for the Study of Disease in Children, vol. v., p. 242, 1905; vol. vi., pp. 27 and 30, 1906.
[4] Quoted by R. Romme, Jahrbuch für Kinderheilkunde, 1907, vol. xv., p. 477.

waste and would die, and yet they straight away make progress on a preparation of cow's milk that one would not have advocated on theoretical grounds. There can be no question that some milks are toxic in their action, be they breast milk or cow's milk, and feeding with them brings about reflex muscular action and all the symptoms of congenital hypertrophic stenosis of the pylorus.

Dyspepsia in infants is a thing to be avoided, and such dyspepsia is often manufactured by the ignorance and stupidity of those in charge of infants.

If the feeding of the normal infant is a problem in some cases, it becomes additionally so if there happens to be hypertrophic stenosis in the background. In the cases which we are treating daily without this deformity, we are prepared to struggle on and do our best to relieve symptoms. There is no reason therefore why despondency should set in when treating cases of hypertrophic stenosis of the pylorus because they do not quickly answer to treatment. They must be looked upon as difficult medical cases from the outset and dealt with accordingly.

The records of the surgical treatment of this complaint show that the infant does not readily tolerate plastic operations on the abdominal viscera, even at the most skilful and the most expeditious hands. Nor has the medical treatment hitherto been anything to make a boast about. Nevertheless we must for the future, I think, look upon surgery as a *dernier ressort* and not as the sheet anchor of treatment. It is hard upon the surgeons, I admit it, to ask them to galvanise into life a moribund athrepsic infant, and failing in that to take a share in the responsibilities and in the obsequies, but I think in the interest of the patient the surgeon must be thought of late in the case. But once let the physician realise that these cases are not untreatable medically, and there will in the future be more medical successes and fewer surgical failures. What the future will have in store for the cases of hypertrophic stenosis that have been cured medically remains to be seen. In regard to this point, however, it is not uninteresting to learn that Seefisch found that in three cases that responded to this treatment operation became necessary before the children reached the age of 12 years.

Surgery as a mode of treatment for pyloric spasm is neither necessary nor advisable. To operate on such a case would be on a par with performing tracheotomy for the cure of laryngismus stridulus. It is for the purpose of preventing unnecessary operations as well as from the desire to diagnose the case correctly that I attach very great importance to the discovery of the pyloric tumour, and had more attention in the past been paid to its detection there would have been fewer cases on record of congenital hypertrophic stenosis.

Finally, what should be the treatment? It must be conducted on the broad, general principles that experience has taught us to be of value in the uncomplicated complaint. Muscular and nervous hyper-excitability of the organ may be fought by antispasmodics, such as cocaine, opium, chloral, bromide, antipyrin, belladonna, camphor, and sulphocarbolates. I have no special partiality for any of these drugs and I have no supreme faith in their performances. The secret of success in all medical treatment of dyspepsia in infants lies not so much in its drug treatment as in the discovery of the milk best suited to the child. When bottle-feeding is compulsory the selection of just the right form and the right dilution of cow's milk requires careful study, but above all things it must be *clean*. A baby's stomach will deal efficiently enough with a poor milk, but it will immediately resent the stale and the dirty article. And not only should it be clean, but it should be undoctored. The food that is selected should be one that leaves a small residue—one that the gastric juice can readily dissolve. Large lumps of curd in the stomach are fatal to progress.

Regular meals are no less important than restricted meals, and not only are meals that are too bulky to be carefully avoided but the meal must be administered slowly. The dyspeptic infant becomes an inveterate food-bolter, and a meal that is dumped down into the infant's stomach is bound to disagree. The man who is in a hurry to change the dietary because the infant's stomach does not immediately respond to his treatment will never succeed. Success can only be compelled by shaping a course and intelligently sticking to it. It will be found on inquiry that those who claim that they have tried everything have really tried nothing. Ringing the changes on a variety of foods invites dyspepsia, it does not cure it, and such panic-bred dietaries must be avoided.

Abdominal massage in the direction of the pyloric outlet has proved efficacious in at least one case. But in regard to topical treatment gastric lavage has a well-merited reputation. Thorough stomach washing with warm normal saline solution should be used twice a day until the complaint shows decided signs of improvement, when it may be tried once a day. That the remedies are working satisfactorily can be seen by the improved condition of the stools. And there are two other precautions that must be taken—viz., to keep the infant's stomach warm and not to upset his digestion by starchy foods.

But when is the surgeon to be called in? In the present state of knowledge, to assert that the surgeon should never be called in is perhaps not warranted by the facts, but nevertheless I think the advice should be hardly ever, and that the physician will best serve his patient by not being in too great a hurry to shift his responsibility on to his surgical colleague.

On May 22nd, 1907, I saw a male infant, aged two months, in consultation with Dr. D. J. Munro, of Brixton. The history given was typical of the condition of pyloric stenosis. The patient would keep down two or three feeds and then would vomit what appeared to be the whole amount previously taken. He was constipated, had gradually lost ground from the first week of birth, and in spite of being fed on a variety of foods "vomited everything." Various proprietary foods were tried as well as milk and water and peptonised milk, but all with the same result: persistent vomiting followed, accompanied by constipation and the passage of scanty concentrated urine. At a week old the child was breast-fed, took food well, weighed about 7 pounds, and did not vomit, but owing to the mother suffering from a slight attack of rheumatic fever he had to be artificially reared, with the result just related. He was very emaciated when I saw him and seemed so ill that it did not appear that he would survive the night. The pulse was slow and feeble, the respirations were very shallow, the anterior fontanelle was depressed, and the temperature was subnormal. The child was too weak to cry; he opened his mouth as though to cry but no sound came from the lips. He weighed 5 pounds 13 ounces. The vomiting was very persistent and violently expulsive and the bowels were almost absolutely confined.

An abdominal examination left no doubt in my mind as to the nature of the complaint. There was an indurated pylorus of the most typical feel. The lump was located above and to the left (examiner's) of the umbilicus; it was deep down in the abdominal cavity, could be grasped between the fingers and thumb on deep manipulation, was as large as an almond-nut, and felt as hard as gristle. Further, there was on abdominal manipulation obvious gastric peristalsis terminating in the direction of the lump aforesaid. Otherwise there were no physical signs, but there was a right inguinal hernia which had appeared a week after birth. The physical condition of the child was so weakened that it appeared to us that to submit him to surgical operation was tantamount to signing his death warrant. It was therefore decided, with the parents' consent, he should be medically treated, that the diet should be whey, and that the stomach should be washed out daily. On the night of my visit Dr. Munro washed out the stomach with a 0·5 per cent. solution of common salt; this was followed by a four-ounce feed of whey, and subsequently two-ounce feeds every two hours were administered. On the day following and on subsequent occasions the wash was made of sodium sulphate, 0·5 per cent., and sodium bicarbonate, 0·2 per cent., which had the immediate effect of causing regular actions of the bowel. Four-hourly drop doses of laudanum were also ordered. There then had been no sickness for 24 hours and 14 ounces of whey had been retained. Inunctions of cod-liver oil were also instituted twice daily. On May 24th, the second day of treatment, the infant was sick twice following cod-liver oil by the mouth, but 15 ounces of whey were retained. He also passed two dark green offensive motions, the first for four days. On the next day he was ordered teaspoonful doses of olive oil by the rectum, and in place of the drop doses of tincture of opium (which were making him much too somnolent) half-drop doses were substituted, combined with drop doses of tincture of belladonna. The injections of olive oil were mostly all absorbed, but sometimes they were returned with a loose green stool and often undigested. The bowels were opened about once daily and the motions were mostly small, green, and constipated. From May 23rd to June 2nd the infant retained daily the following quantities of whey—viz., 14½, 20½, 19, 15, 18, 19, 17, 16, 16½, and 17¾ ounces. On the fourth day after commencing treatment he had lost two ounces in weight, but his subsequent gain in weight amounted to 7 ounces—6 ounces during the last five days. The child was sick twice on May 25th, three times on the 26th, twice on the 27th, twice on the 28th, once on the 29th, once on the 30th, and then not again for eight days, when on June 7th he vomited twice. He was fattening visibly. Such was the condition of the patient on June 7th but for several days he had suffered from erythema and œdema and the possibility of this cutaneous disturbance being due to the olive oil injections occurring to Dr. Munro they were discontinued. But the rash still continued to appear for three or four days, so the rectal injections were recommenced but then given once daily only. According to the nurse's description the rash "seemed to appear just after the olive oil injections." The lips became swollen, red patches appeared over the face, rather like port wine stains, and the hands and feet were red and swollen. Besides the swelling of the hands and feet swelling was noticed on the right side of the sacrum; it was, quoting the nurse's words, "quite dropsical," and about two days later it spread over the body. The infant increased in weight, an increase which was thought to be only owing to the swelling just mentioned. By June 5th there was a good deal of dropsy of the neck. He coughed a lot over his feeds and there seemed great difficulty in swallowing and also in breathing. The child was propped up with pillows and often had to be held up by the feet as he choked and "went black in the face" while being fed. The œdema appeared to be

accountable for these troubles. On the 6th the opium was discontinued (one and a half minims of tincture of digitalis being substituted). The infant then became brighter and cried more after its discontinuance. On the 7th I again saw the patient with Dr. Munro. Œdema was at that time a marked feature though less extensive than it had been. The erythema had disappeared. The urine contained two parts per 1000 of albumin but there were no casts; it was slightly alkaline when passed and deposited a slight precipitate of earthy phosphates. Dr. Munro subsequently examined the urine and came to the conclusion that there was no deficiency of chlorides. Dr. Munro reported on the 11th that the œdema had quite disappeared since omitting the laudanum. Magnesium sulphate, 0·5 per cent., was now used by him for lavage with the idea that the magnesium base would assist in the elimination of chlorides. Starting on June 8th the child was fed on "humanoid" milk, an Aylesbury dairy company product. He took it well but only in small quantities; 15 grains of cane sugar were added to each feed. He appeared to be more satisfied with the new diet, and he slept well, but the weight fell to 5 pounds 12½ ounces. It was on this date intended to wash out the stomach every 36 hours in place of every 24 hours, as was previously the case. On the 14th Dr. Munro reported that the patient was taking and digesting food well, but "only in small quantities, rarely more than two ounces per feed." He was still losing weight, having dropped to 5 pounds 7 ounces—less than ever. He was sick while being fed once, the first time for a week, there having been no sickness since the 7th. He was ordered a milk-and-water mixture—one part milk and two parts water—every two and a half hours, from two to three ounces at a feed, and to three of the bottles a teaspoonful of cream was added. On the 15th, as the mother was anxious for it, a wet nurse was obtained and mixed feeding was instituted. The infant was sick once on the 16th and three times on the 18th; on this latter occasion coffee-ground vomit occurred, which was thought to be due to cracked nipples. The wet nurse not being a success was discontinued. Lavage was discontinued on the 20th. The child was sick once on the 21st, but not again until the 28th, when he was sick once and then for the last time. During the first week of the milk-and-water diet he had lost 5¼ ounces in weight; after that he commenced to forge ahead and gained on an average an ounce a day. He suffered a good deal with flatulence all through the illness, especially after food, and sometimes would cry nearly all day, as if in pain. (After wearing a woollen truss, which was applied in the middle of August, he cried ever so much less.) He perspired a good deal at night. On July 6th the patient was taken to the country.

The weight of the patient on June 14th, when milk-and-water feeding was started, was 5 pounds 7 ounces, and on July 8th it was 6 pounds 12 ounces. Day by day increasing quantities of milk-and-water were taken; on June 14th the amount was 18 ounces, while on July 6th it was 30 ounces. While on whey the bowels were opened once daily and the motions were green but after the child had been fed on milk and water for a week the stools became quite natural and there were from two to four motions in the 24 hours. Week by week the patient continued to gain ground and by July 27th, when the rectal injections of olive oil were discontinued, he weighed 8 pounds 1 ounce. On August 22nd, when brought back to London, he weighed 9 pounds 8 ounces, and on the 27th, when the nurse left, he weighed 10 pounds and was steadily gaining ground every day. In the middle of September he suffered from spongy tender gums for a week but since impressing the necessity for antiscorbutic foods upon the parents the patient had never looked back. In October he weighed over 16 pounds at seven and a half months and was a jolly, normal baby, and he still (January, 1908) continues to thrive.

A SUGGESTION FOR TREATMENT IN DELAYED CHLOROFORM POISONING.

BY A. P. BEDDARD, M.A., M.D. CANTAB., F.R.C.P. LOND.,
ASSISTANT PHYSICIAN TO GUY'S HOSPITAL; PHYSICIAN TO THE WEST LONDON HOSPITAL.

ALTHOUGH patients suffering from delayed chloroform poisoning may recover spontaneously the literature of the subject shows that the prognosis is bad, which is only another way of saying that the treatment, whether preventive or curative, is unsatisfactory. The clinical symptoms and post-mortem appearances are constant and well established, but their interpretation is still a matter of controversy. Nevertheless, for the purposes of treatment it is necessary to adopt some working hypothesis of the pathology of the condition.

The curative treatment most frequently adopted has apparently been the use of alkalies. This presupposes that an acute acid intoxication of the body is at least an important cause of the symptoms and fatal result. And we must consider whether this is likely to be true. There are many conditions known in which metabolism is so deranged that organic acids produced in the body escape oxidation and are excreted in abnormal quantities in the urine. This state of things is termed acidosis. The body has to provide bases in order to neutralise these acids, and for this purpose it uses either NH_3, the normal precursor of urea, or failing a sufficient supply of NH_3 the inorganic bases in the tissues. The organic acids, such as lactic, β oxybutyric, diacetic, &c., which are intermediate products of metabolism, are not in themselves poisonous; their power of doin the body harm is confined to their action as acids and as long as the body provides sufficient base to neutralise them their presence will not produce symptoms. In other words, acidosis is not a poisoning of the body by acids and it is only when the supply of base begins to fail that acidosis passes into acid intoxication. We know that a high degree of acidosis by the acetone bodies may exist for weeks and even for years, as in acute starvation and severe diabetes, without causing any symptoms of acid intoxication; in fact, we do not know any condition whose symptoms and fatal issue are probably due to an acute acid intoxication, with the single exception of diabetic coma. Even in such a severe disease of the liver as acute yellow atrophy, although an acidosis is certainly present, death supervenes far too rapidly for the symptoms to be due to the acidosis passing into an acid intoxication. This is still more obviously true of poisoning by phosphorus, in which the acidosis is less severe. It is further remarkable what severe and widespread changes may exist in the liver without causing acidosis. For instance, in poisoning by hydrazine, which induces changes in the liver similar to those of phosphorus, no acidosis is present; and the same is true of animals in which multiple necroses of the liver have followed the injections of hæmolytic sera. From these considerations we have to conclude that alkalies could not be of much value in the treatment of delayed chloroform poisoning and clinical experience confirms it.

The weight of evidence is in favour of the view that the poisoning by chloroform is the cause not only of the symptoms but also of the microscopical changes found in these cases. It is, however, manifestly necessary to believe that certain individuals are highly susceptible to the action of chloroform, and the cause of this state of things is equally unknown, no matter whether we call it idiosyncrasy or believe that the vitality of their protoplasm has received some previous injury which has made it unduly susceptible to the action of a general protoplasmic poison like chloroform. Numerous experiments on animals have shown that the action of chloroform on cells is similar to that of phosphorous, arsenic, and other general protoplasmic poisons. Although we do not know how any of these poisons injure cells it is necessary to form some working conception of what changes they induce in the metabolism of the body in addition to the changes caused by the concomitant starvation. The broad facts seem to be as follows. Nitrogenous metabolism is increased—that is to say, there is an increased breaking down of tissue proteid. But the metabolism of nitrogenous substances is also disturbed so that products of proteid catabolism leave the body no longer in a fully oxidised state; consequently the cells have lost to a corresponding degree the power of obtaining energy from proteid. The hepatic glycogen rapidly disappears and to a less extent that of the muscles and other cells; and further the total quantity of carbohydrate in the body is decreased. But in poisoning by chloroform the liver has not necessarily lost the power of forming glycogen, as can be shown by feeding the animals with dextrose. It is therefore clear that carbohydrate metabolism is increased greatly at first and that since the store of carbohydrate material in the body is relatively very small, this increased utilisation must soon come to an end. The facts in regard to the metabolism of fat are well established. Microscopically the cells of the liver, muscles, and kidneys appear to be loaded with fat. In the case of the kidney, however, there is no actual increase of fat; the appearance of the cells is due to a change in their protoplasm whereby fat in combination and thereby masked and invisible becomes obvious under the microscope. In the liver and muscles there is an actual increase of fat which has been transported in the blood from the normal sites of storage and has been taken up by the cells of these tissues. A similar active transference of fat from the depôts to the hungry cells takes place in starvation, but in this case the cells of the liver and muscles do not become loaded with fat; and this must be because they can metabolise it more rapidly. In poisoning by chloroform the cells are starving and call for fat which they take up more greedily than they can metabolise it; and hence, whilst the transference of fat about the body is increased, the metabolism of fat is decreased and we observe under the microscope a fatty infiltration of degenerated protoplasm.

These are the broad facts; and Rosenfeld's interpretation of them has been hinted at and may now be shortly stated. He believes that when cells are poisoned by chloroform their metabolism is so altered that whilst they can utilise carbohydrates well they can oxidise proteids but imperfectly and

fats even less well. Consequently as soon as the cells have used up their meagre store of carbohydrate, their hungry condition causes a breaking down of tissue proteid and a transference of fat to them; but since neither of these food-stuffs, and especially the fat, is properly utilised, the cells remain in a condition of severe starvation which may rapidly lead to their death through lack of energy. He and other observers have shown that if the poisoned animal is fed with dextrose the transport of fat is prevented because it is no longer necessary; and further, that recovery is much more likely to take place than when the animal is starved. Feeding with carbohydrates, of course, does not prevent the poison from damaging the cells, and it has been found to be useless when protoplasm has been too severely damaged, as in acute poisoning by phosphorus, but carbohydrates do provide the cells with the source of energy which they can most easily utilise, and may therefore prevent their dying from acute inanition and so give them time in which to recover.

If Rosenfeld's theory is accepted as the best working hypothesis of the changes in metabolism induced by chloroform the application of it to man is obvious. It would seem worth while to try feeding such patients with dextrose either by the mouth, or failing this by enemata or continuous rectal infusion of a 10 to 20 per cent. solution, or even by infusing intravenously a 6 per cent. solution. Since these cases are rare and since there is at present no means of knowing which patients will show a great susceptibility to chloroform, it is not likely that it will be possible to decide in man whether feeding with dextrose before the anæsthesia is of any value, but it might be advisable to try it in rickety and ill-nourished children. And, further, it might be possible by inquiry to find out whether an abnormal susceptibility to chloroform is associated with an absence before the operation of such food as will keep up the store of glycogen in the body and whether conditions which reduce this store increase the susceptibility. For it seems clear from experiments upon animals that every chloroform anæsthesia must induce some change in the metabolism and yet the vast majority of patients do not exhibit the serious symptoms of delayed chloroform poisoning.

Seymour-street, W.

A CASE OF CYSTIC DISEASE OF THE MAXILLARY ANTRUM.

BY RICHARD LAKE, F.R.C.S. ENG.,
SURGEON TO THE ROYAL EAR HOSPITAL, DEAN-STREET, SOHO, LONDON, W.

THE case about to be described is one that had been under my care at intervals during the last six years and was brought to me by Mr. E. T. M. Tunnicliffe of Finchley.

The patient, a female, aged 18 years, had had five years previously a nasal polypus removed by another surgeon. On Jan. 27th, 1902, when she was first seen by me, the history was that right nasal obstruction had been observed for about a year. On the right hand side a choanal polypus was seen in the post-rhinoscopic mirror and another portion was also visible by anterior rhinoscopy. This was removed by a snare with the patient under anæsthesia and it turned out to be a long thin bilobed choanal (antral) polypus. From this time the patient felt no discomfort in the nose until April, 1905, when she returned with a further obstruction of the right nostril and marked insomnia. On examination nothing was visible at the anterior nares, but a large and extremely translucent polypus was observed occupying the same situation as the former one, though of somewhat greater bulk. A short time afterwards the patient was admitted into a home to have this polypus removed, but during the previous night she had been startled by a tremendous rush of clear fluid from her nose, with complete relief of all the symptoms. Under the anæsthetic, however, a thin, empty cyst-wall was found and removed. The polypus in this case had obviously been cystic. Early in 1906 a second cystic choanal polypus had formed. This was also removed, followed by a considerable flow of fluid. Six months later—that is to say, in July, 1906—a further small cystic polypus was removed under cocaine, obviously coming from the antrum, although there had been no doubt that all the previous polypi had sprung from this situation. About this time the patient began to exhibit signs pointing to pulmonary tuberculosis—that is to say, she lost flesh and suffered somewhat from night sweats and also had a certain amount of cough, but no bacilli were found in the sputum. Although the idea of clearing out the right maxillary antrum was mooted it was postponed, trusting that the tendency to cyst formation might have ceased. As, however, twice during 1907 cystic antral polypi were removed, on Nov. 5th, 1907, the antrum was opened through the canine fossa and the mucous membrane as far as possible was ablated. One large portion, occupying the floor and part of the anterior wall, was removed intact and was found to be closely studded with small cysts containing a straw-coloured fluid, the cyst-walls being extremely thin. The antrum was very roomy. An uninterrupted recovery followed.

The latest paper which I can find on the subject is by Bichaton [1] who gives a *précis* of the literature on the subject. The chief difficulty has arisen from the want of accurate pathological details. Alexander (1897) has had, or seems to have had, the opportunity of examining and reporting upon cases which come under the same category as the present case, for he describes a triple origin for cyst of the antrum, dilatation (*a*) of lymphatic canals, (*b*) of blood-vessels, and (*c*) hypertrophy of the connective tissue. Later Hajeck (1899) proceeded to show that mucocele was a cystic formation proceeding from the mucosa of the sinus. This condition was described in a thesis by Geraldés in 1851. Amongst the various affections which have been grouped together as cystic disease of the antrum according to Jacques and Berteimes (1901) are: (1) development of posterior dental cysts; (2) prolonged and complete occlusion of the ostium (mucocele), the contents sometimes serous, sometimes hæmorrhagic; and (3) cysts arising from the mucosa, fluid viscid and gelatinous.

In the case here reported the cysts were formed from dilated lymphatics. The fluid was serous, either pale straw coloured or colourless. The ostium was very patent. The points of chief interest were the connexion between polypus formation and cyst formation and the development of the pseudo-tubercular state, the latter being a not uncommon condition in polypoid degeneration of the nasal mucosa, and according to Waggett [2] in antral suppuration.

Harley-street, W.

LYMPHANGIOPLASTY:

A NEW METHOD FOR THE RELIEF OF THE BRAWNY ARM OF BREAST-CANCER AND FOR SIMILAR CONDITIONS OF LYMPHATIC ŒDEMA.

BY W. SAMPSON HANDLEY, M.S. LOND., F.R.C.S. ENG.,
HUNTERIAN PROFESSOR, ROYAL COLLEGE OF SURGEONS OF ENGLAND; ASSISTANT SURGEON TO THE MIDDLESEX HOSPITAL; SURGEON TO THE BOLINGBROKE HOSPITAL, WANDSWORTH COMMON, S.W.

(Preliminary Note.)

AMONG the complications of breast-cancer none is more terrible than the brawny swelling of the arm which frequently comes on in the later stages of the disease. The pain to which it gives rise is so excruciating that amputation has been suggested and frequently carried out for its relief. Incisions into the swollen limb have been employed with temporary benefit. No other remedy except the use of narcotics has been suggested. Apart from actual pain and consequent insomnia the discomfort and misery produced by the constant leaden drag of the paralysed, inflexible, and bolster-like limb are important factors in the sum total of misery produced by the disease.

The brawny arm occurs in about one case out of every six of breast-cancer. It was formerly considered to be due to the pressure of a mass of growth upon the axillary veins and this view is still stated with approval in some current text-books. There are certain facts which go to show that this theory is untenable. During the operation for breast-cancer ligature or excision of the axillary vein has frequently been done without the subsequent production of any œdema of the arm. Moreover, the brawny arm often occurs in cases which present no mass of axillary growth, but is rather associated with atrophic forms of the disease. Lastly, the teaching of pathology is that solid forms of œdema are not produced by simple venous obstruction acting alone.

[1] Revue de Laryngologie, 1906, vol. i., p. 71.
[2] Diseases of the Nose, 1907.

Mr. T. W. Nunn[1] has maintained that the brawny arm results from the obstruction of the main axillary lymphatics by growth within them. This view is doubtless a part of the truth, but it fails to explain why no collateral lymphatic circulation is established to carry on the lymph circulation in the arm. The answer to this question is a corollary to the permeation theory of dissemination in carcinoma. I may be permitted to recall the main outlines of this view of dissemination, which was stated for the first time in my Hunterian lectures for 1905, and more fully in my recent work on breast-cancer.[2] The permeation theory has won such wide acceptance at home and abroad that it may be said to have almost supplanted the embolic theory of dissemination. Indeed, in breast-cancer, the only form of cancer which I have hitherto adequately worked out, the evidence for permeation is so strong that the word "theory" is entirely out of place. When a carcinoma originates, its cells for a time spread by pushing their way into the intercellular lymphatic spaces of the surrounding tissue. This process is known as infiltration. Soon, however, the cancer cells penetrate into the small lymphatic vessels which open out of the lymphatic spaces. Within these vessels the cancer cells find less resistance than in the tissue interspaces, and they commence to spread centrifugally in all directions from their point of origin by actually growing along, and filling up, the lymphatic plexus to which they have obtained access. This process of permeation may slowly spread in a circle any distance up to a maximum of about two feet from its point of origin. It is doubtful if the process of permeation can so completely obstruct the lymphatic vessels as to cause lymphatic œdema. But I have been able to show that a permeated lymphatic is ultimately doomed to destruction by a process which must be included among the reparative efforts of the body against carcinoma. This process may be called peri-lymphatic fibrosis and it takes place as follows. The plug of cancer cells within the lymphatic, continuing to proliferate, finally splits up the lymphatic. Around the microscopic trauma thus produced a vigorous round-celled infiltration occurs, to be replaced later by a capsule of newly formed fibrous tissue, which contracts upon, and ultimately strangles, the inclosed cylinder of cancer cells. The original lymphatic vessel is replaced by a solid, microscopic, fibrous cord, and the process of peri-lymphatic fibrosis is complete.

It thus became evident that *the permeative spread of a cancer is accompanied by an almost co-extensive destruction of the lymph-vascular system.* The recognition of this fact provided for the first time an adequate pathology for the swollen arm of breast-cancer. The circle of permeation, spreading from the breast in the plane of the deep fascial lymphatic plexus, sooner or later reaches the arm and begins to travel down it. After permeation has involved the whole circumference of the arm and has been in turn succeeded by the obliterative process of peri-lymphatic fibrosis, and if, as generally happens, the trunk lymphatics are obstructed by growth of embolic origin in the axillary glands, the arm is utterly cut off from the lymph-vascular system. No collateral circulation can be established, and the lymph can only return imperfectly by percolating the tissue interspaces. The swollen arm of breast-cancer is thus a direct consequence of the actual and complete severance of the lymph-vascular system of the limb from that of the trunk by the conversion of the connecting lymphatics, small and large, into solid cords of fibrous tissue. The change affects first and mainly the lymphatics of the deep fascial lymphatic plexus.

This conclusion appeared a hopeless one as regards the practical problem of relief, and for a long time I could see no solution. Obviously, the limb requires an entirely new set of lymphatics, and the maxim that correct pathology is the key to treatment seemed here to have no application. I believe, however, that I have found a way of providing an artificial lymphatic system for the limb, a system which though clumsy is nevertheless efficient. The details of the method are not yet fully settled and I propose here only to indicate its principles. It was necessary to provide permanent conduits to lead the lymph from the obstructed area into areas of normal lymphatic circulation. But any perforated drainage-tube buried in the tissues is certain to become blocked either by organisation or coagulation within its interior. Was it possible to drain the limb permanently by capillary attraction?

[1] Cancer, by T. W. Nunn, F.R.C.S. Eng., p. 23. Glaisher, 1899.
[2] Cancer of the Breast and its Operative Treatment, by W. Sampson Handley. Murray, 1906.

I have in my possession a section of a silk ligature, removed by my friend Mr. J. D. Malcolm, which had been imbedded in the tissues of the peritoneum for ten years. Though eroded at its surface, the main substance of the thread is intact. Moreover, leucocytes are evidently unable to penetrate between the fibrils of the silk, for the interior of the thread is entirely free from cellular elements. Nor is there any microscopic indication of the coagulation of the body-fluids in the interstices of the silk. It appeared therefore, that a stout silk thread, at any rate if not under tension, would remain unabsorbed for some years, and that the absence of organisation and coagulation in the interior would insure the retention of its capillary power. Acting upon these indications, I determined to introduce into the subcutaneous tissue of the swollen arm a number of buried silk threads, running longitudinally upwards from the wrist to terminate in the loose and healthy areolar tissue in or beyond the axilla, and spaced out at convenient intervals around the limb. The operation is closely analogous to the drainage of a marshy field by lines of buried pipes. The success of this plan, though its ultimate result awaits the verdict of time, has exceeded my hopes. The operation required is so slight that even if the relief be but temporary it is worth the cost. But for the reasons above stated I believe the silk will maintain its action for some years.

In a later communication I propose to describe the method fully, to state its results, and to discuss its application to other forms of lymphatic œdema. I am sanguine enough to believe that it will largely replace amputation and arterial ligature in the treatment of elephantiasis, and that it will be successful in relieving women who are chronic invalids from "white leg." Since the operation appears to involve a new principle of wide application it will be convenient to give it a distinctive name. The word "lymphangioplasty" suggests itself as a natural descriptive term for the operation, not as implying any theory of its mode of action but as indicating its practical results. I will conclude by a brief description of my first case, operated upon on Feb. 1st of this year.

The patient, a woman, aged 56 years, was admitted into the cancer wards of the Middlesex Hospital on Jan. 18th last under my senior colleague, Mr. J. Bland-Sutton, who kindly transferred her to me for treatment. In 1894 a portion of the right breast was removed for carcinoma at Chichester Hospital. In 1896 recurrences in the breast and axilla were removed at St. Mary's Hospital. In 1903 two or three small recurrent growths were removed from the axilla. In 1905 the right arm became swollen; it slowly became paralysed, and has been the seat, during the past three years, of excruciating pain which frequently kept her awake at night. On admission there was no evidence of cancer in the body in the form of palpable tumours. The right nipple still remained intact and was not indrawn, and there was no lump in what remained of the right breast, nor was there any axillary mass of growth. The chest and abdomen were free from deposits. The growth was evidently an atrophic scirrhus, which had undergone an almost complete process of natural cure. The right arm and hand below the deltoid insertion were greatly swollen. The œdema pitted slightly on pressure, though it approached the solid variety. There was complete paralysis of the limb, save that the third and fourth fingers could be moved slightly. Sensation was lost in the thumb and first finger, but not in the second, third, and fourth. The hand was warm and of natural colour. Flexion of the elbow was only possible through 15° or rather less.

On Feb. 1st, under chloroform, a number of silk threads, each running upwards from the wrist to the loose tissue upon the chest wall, just below the axilla, were buried in the subcutaneous tissue. The operation produced no general disturbance of note. On the next day it was obvious that the bandages were loose and the strapping upon her fingers was in the same condition and had to be frequently replaced. On the 6th it was noted that the arm and hand were quite flabby and much reduced in size. The skin was much wrinkled and hung awkwardly on the fingers in folds. On the 7th the patient remarked that she "saw her knuckles for the first time for years." The movements of the fingers were beginning to return and she was able to grasp very feebly. The arm was still quite paralysed. On the 10th the forearm and hand began to present an almost normal appearance, but much swelling of the upper arm remained. On the 19th the swelling about the elbow, which as the patient lay was the lowest point of the limb, had somewhat increased, and the limb was ordered to be put upon an

inclined plane in an extended position and to be bandaged during the night. On the 24th the limb was continuing to diminish in size though less rapidly than at first. Unfortunately, measurements of the limb previously to operation were omitted, so that no accurate record remains of its very rapid and marked subsidence in the earliest days after operation. Its slower subsequent subsidence is recorded in the following table:—

—	Feb. 6th.	Feb. 13th.	Feb. 18th.	Feb. 19th.	Feb. 21st.	Feb. 24th.
Circumference of arm—	ins.	ins.	ins.	ins.	ins.	ins.
At wrist	7¼	6⅝	6⅝	6⅝	6½	6⅝
4½ ins. above wrist	8½	8⅛	8¼	8	7⅞	7⅞
Just below the elbow	10½	9½	10¼*	10⅛	9⅜	9⅝
8½ ins. below the acromion...	11	8⅞	10½*	10⅜	9½	9⅜

* Temporary return of swelling owing to dependent position of elbow.

Note.—The operation was performed on Feb. 1st.

In conclusion, it may be stated that the patient has lost her pain and that she is very grateful for the operation. Flexion of the elbow is now possible through about 110°, as compared with about 15° or less before the operation. The movements of the hand continue to improve, so that the patient can hold a pin between the finger and thumb. It will be interesting to see whether the muscles of the arm recover their power, but at present there is no sign of this.

My second case was operated upon as recently as Feb. 22nd and it will serve no useful purpose to record it in detail at present. This case, like the former, exhibited within a day or two a remarkable diminution of the tension of the arm and commencing subsidence of the swelling. The patient is already entirely free from nocturnal pain and insomnia.

In conclusion, I may be pardoned for pointing out that the operation of lymphangioplasty is no lucky chance experiment but the definite result of some years of laboratory work in the Cancer Research Laboratories of the Middlesex Hospital. For the opportunities which were afforded me my thanks are due to the Cancer Research Committee of the hospital. Fortunately, the value of lymphangioplasty is capable of immediate proof. If a similar immediate demonstration were possible of the value of the rational method for extirpating breast-cancer in its earlier stages, which I have described and continue to advocate, a method which is also based throughout upon pathology, I believe that a marked improvement in the general results of the radical operation for breast cancer would be secured and that the field for palliatives such as lymphangioplasty would be correspondingly and fortunately narrowed.

Wimpole-street, W.

PORTAL OBSTRUCTION WITHOUT EXTERNAL EVIDENCES OF PORTAL CAVAL ANASTOMOSIS; ITS PROGNOSTIC SIGNIFICANCE.

BY G. H. CHARLES LUMSDEN, M.B. ABERD.

THE following case of hypertrophic cirrhosis raises certain points of interest in regard to prognosis which seem to justify publication.

The patient, a man, aged 46 years, had for a number of years been addicted to alcoholic excess. During the last five months he had been abstemious, as, to use his own words, "he felt played out." Nothing of any interest could be elicited regarding his previous history and it is noteworthy that he had never suffered from hæmatemesis, but for the past two or three months he had been subject to pyrexial attacks specially at night, though this information was only obtained in response to leading questions. Loss of appetite and occasional morning sickness were also complained of. With these preliminary remarks I arrive at the onset of the present urgent symptom, the hæmatemesis, which ultimately terminated in death. Late in the afternoon of Feb. 25th last I was summoned by the brother of the deceased, who informed me that the latter was suddenly taken very bad with vomiting blood, with the graphic qualification that "the house looked as if it had been converted into a slaughter-house." Picking up my saline infusion paraphernalia and losing as little time as possible I found my patient amid the most horrifying surroundings. It was impossible accurately to estimate the amount of blood lost; one large and one medium-sized basin had been filled, pools of blood had collected in several parts of the room and a great part of the wearing apparel and bedclothes were soaked in blood. In addition a chamber half filled with a watery motion as black as tar was produced for my inspection. These evacuations had occurred within a few minutes of each other, although the patient had not been feeling well for some hours previously and had taken to bed. The pulse at this time was 110, feeble, and easily compressible and the complexion blanched and icteric. The only complaints made by the patient were that he felt faint and could not see. On examination of the abdomen a huge liver presented extending to within one and a half inches of the iliac crest. The lower edge could be readily palpated by all the orthodox methods, felt sharp, and moved freely with respiration. That there was no hepatoptosis was apparent from the upper limit of the liver dulness which extended as high as the third interspace in the mammary line. No distinct enlargement of the gall-bladder could be ascertained and the spleen appeared to preserve its normal size and relationships. There was also an absence of ascites. The lungs were normal, except for slight bronchitis; there were no evidences of aneurysm or organic cardiac disease, though the heart sounds were feeble and short.

The indications for a saline infusion being clear I decided in favour of the intravenous method, choosing the median basilic vein, and with moderate rapidity ran in about three pints of normal saline solution to which five drops of 1 in 1000 solution of adrenalin chloride had been added. The immediate results were extremely gratifying. The patient rallied rapidly, the pulse improved, the sight returned to normal, and the ominous yawning in which he had been vigorously indulging at short intervals ceased. I prescribed absolute rest, the official lead and opium pill as an astringent (?) every two hours, with exclusive rectal alimentation, and left the house with a very fair degree of confidence born of the comforting assurance that death in hepatic cirrhosis was only very rarely due to hæmatemesis.

I called on the patient the next morning, when from all appearances the improvement appeared to be sustained and no faintness was complained of. At a subsequent visit the morning following the only noticeable change was an increase in the jaundice and the patient complained of slight occasional faintness. I anticipated a recurrence of the hæmorrhage and left instructions to be sent for if the faintness increased. The expected summons came the same afternoon when I was informed that the feeling of faintness had increased and that the yawning and dimness of vision had returned. I again injected about two pints of normal saline solution with adrenalin chloride into the median basilic vein of the opposite side with the same hopeful results, though to a lesser degree, and the patient again felt fairly comfortable. Hardly had I left the house, however, when a frightful attack of vomiting occurred. The patient sitting up in bed quite a column of black fluid and clotted blood was projected, I am informed, a distance of about two feet. Several pints must have come up on this occasion. The bowels were again moved at the same time and an identical motion to that of the first day was passed, though in even larger quantity. Subsequently two other large and very offensive motions were passed of a similar nature, death following at a short interval. The urine on examination was found to contain a fair proportion of bile.

It is worthy of note in this case that there were no signs of portal caval anastomosis manifest in the external venous system such as the caput medusæ or even hæmorrhoids. The channel of least resistance to the establishment of a collateral circulation was probably through the azygos and œsophageal veins alone and it is probable that it is from the necessary magnitude which these veins must have attained and the want of any alternative channel that the fatal result was due. The presence or absence of evidences of a collateral circulation through the more superficial venous system and the degree of development of such anastomosis may thus be of very considerable value in prognosis both prior to (supposing there is reason to believe that hæmatemesis is impending) and after hæmatemesis occurring in association with portal

obstruction, since hæmatemesis from rupture of greatly distended gastric and œsophageal veins with no alternative channel of venous communication between the portal and caval systems must always be more serious than where one or two alternative paths exist and the total vein bed is divided up to a corresponding extent.

Brighton.

NOTE ON A CASE OF COMPOUND DEPRESSED FRACTURE OF THE VAULT OF THE SKULL; OPERATION AND RECOVERY.

BY HANWAY R. BEALE, M.D. LOND., M.R.C.S. ENG., L.R.C.P. LOND.,
SURGEON TO THE RETFORD HOSPITAL.

THE following case presents some features of interest especially in view of the age of the patient and the amount of damage done to the brain tissue.

On May 19th, 1907, a boy was throwing a piece of iron rod into the air to make it spin and whilst it was up in the air the patient ran out of a house and passed underneath it so that the rod fell endways on to his head. The rod was removed from the head by the patient's father, who said that it had penetrated for a distance of half an inch and blood and brain matter were found on it for that distance. The rod was 17¾ inches long by ⅝ inch square and it weighed 11 ounces. The patient did not lose consciousness. He was taken to the Retford Hospital at once.

On admission the patient was found to be a rather stunted child, six years of age. Although conscious he was decidedly dull and unresponsive to questions. The preliminary examination of the wound did not cause as much crying as might have been expected. Externally all that was seen was a small scalp wound with ragged edges from which some blood was oozing. It was decided to operate at once. The boy was anæsthetised with chloroform and after the usual shaving and cleaning a horseshoe-shaped flap was turned down over the anterior half of the left side of the scalp. This being done, a hole of about the size of a florin was found in the cranium half an inch in front of the parietal suture and half way between the temporal and sagittal sutures. Brain matter was exuding from it. By means of a probe a portion of the bone was discovered buried in the brain half an inch deep and quite detached. This was extracted with forceps and was found to be of irregular shape about half an inch square with jagged edges. On passing the finger round the edges of the hole in the skull it was found that the bone was turned in at the lower and posterior margins of the hole; these portions were raised by means of an elevator and "hinged" into position. The posterior piece broke off in the process and its posterior margin was found to be the coronal edge of the frontal bone; it was half an inch square. The lower piece was of the same area and remained in position. Some trouble was experienced from bleeding from the anterior branch of the meningeal artery but this was stopped by means of a gauze plug. Another spicule of bone three-quarters of an inch long was elevated and removed from the upper margin of the wound. Much blood-clot and hair were removed from the wound and the dura mater was drawn as far as possible across, but as a large portion had been torn away the brain could not be completely covered. The detached pieces of bone were not placed *in situ*. The scalp was sutured up, a small gauze drain being left in the wound. The patient was dressed on the following day. On the plug being removed a small quantity of turbid fluid exuded. He complained of headache, otherwise he was well. On May 23rd suppuration commenced but free drainage was allowed. On June 4th the scalp was suppurating and there was slight hernia cerebri; this was painted every four hours, when dressed, with absolute alcohol. The temperature varied from 98° in the morning to 100° F. at night. Healing was very slow, but the wound gradually granulated over and the hernia disappeared. Finally the skin grew over the wound and recovery was complete. At no period during the time the boy was under observation was there any paralysis or other symptom of nerve lesion. He was discharged on Oct. 5th with the wound completely healed.

The boy was seen in February of this year and he was then well and apparently none the worse for the accident. His school-teacher says that he is rather dull but not more so than before and not more than one would expect of a boy brought up in his poor surroundings.

Remarks.—The vault was involved as is usual in punctured fractures. The amount of damage done to the skull was in excess of that apparent by external examination and the damage to the internal table was more than to the outer. The boy was fortunate in the position of the injury because he just missed having the motor centres damaged. Having regard to the cause of the injury asepsis was almost impossible to attain, and because of this and the detached and buried portion of bone the prognosis was very grave. In many of these cases suppuration ensues and there are formed a cerebral abscess and a localised encephalitis which gradually spreads and death results. Here the suppuration occurred, but there was always a free drainage and thus the risk of subdural or extradural spreading was minimised; apparently it did not occur but remained localised to the area of the wound. It is interesting to note the effect of the absolute alcohol upon the hernia; the granulations were gradually hardened and the hernia shrank in size until flush with the cranium. This method is strongly recommended by some surgeons but others deprecate it; in this case it was certainly of service. The case illustrates the value of the cardinal rule in punctured fractures of the skull in children always to operate as the amount of damage was far in excess of that apparent on external examination.

Retford.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

PATHOLOGICAL SECTION.

Bang's Method of Glucose Estimation.—Parasites of Malaria.—Œsophagostoma Inflatum.

A MEETING of this section was held on March 3rd at the Royal Army Medical College, London, Lieutenant-Colonel W. B. LEISHMAN, R.A.M.C., being in the chair.

Lieutenant-Colonel C. BIRT, R.A.M.C., gave a demonstration of Bang's Method of Glucose Estimation as published in the *Berliner Klinische Wochenschrift* of Feb. 25th, 1907. Bang's copper solution was prepared by taking potassium carbonate pure, 250 grammes; potassium sulphocyanide, 200 grammes; potassium bicarbonate, 50 grammes; dissolved in distilled water to 600 cubic centimetres with the aid of heat to 60° C., cooling to 30° C., and adding copper sulphate pure, 12·5 grammes, dissolved in 75 cubic centimetres of distilled water, adding water up to 1000 cubic centimetres. 50 cubic centimetres of this was rendered colourless by 60 milligrammes of glucose. It would be possible to titrate with diabetic urine until the disappearance of the blue colour; but it was more exact to keep the unreduced copper in excess and to measure this excess. This was done with hydroxylamine sulphate 3·275 grammes, potassium sulphocyanide 100 grammes, and distilled water to 1000 cubic centimetres. 50 cubic centimetres of this discharged the blue colour in exactly 50 cubic centimetres of the copper solution. The test was thus performed. 10 cubic centimetres of urine (if much glucose was contained in it a measured smaller quantity was diluted to 10 cubic centimetres with water) and 50 cubic centimetres of the copper solution were placed in a flask and boiled for three minutes exactly. The flask was cooled under a water-tap and the hydroxylamine solution dropped in until the last trace of blue colour vanished. On referring to the table the amount of glucose in milligrammes corresponding with the number of cubic centimetres of hydroxylamine solution was seen. The table was necessary since 1 cubic centimetre of the hydroxylamine did not denote a constant quantity of glucose. The reduction of the copper was a function of the time of boiling, of the alkalinity, and of the quantities of copper and glucose present.

The advantages of this process were: the accuracy of the end-point, the stability of the solutions, and the little tendency to reoxidation. The reaction occurred, moreover, in the presence of albumin. Lieutenant-Colonel Birt had employed Gerrard's cyano-cupric method in over 300 estimations and considered it the best adapted for clinical purposes

TABLE.

Hydroxylamine solution.		Glucose.	Hydroxylamine solution.		Glucose.
44 c.c.	=	4·9 mgm.	22 c.c.	=	22·7 mgm.
43 ,,	=	5·8 ,,	21 ,,	=	29·0 ,,
42 ,,	=	6·7 ,,	20 ,,	=	30·2 ,,
41 ,,	=	7·6 ,,	19 ,,	=	31·4 ,,
40 ,,	=	8·5 ,,	18 ,,	=	32·6 ,,
39 ,,	=	9·4 ,,	17 ,,	=	33·9 ,,
38 ,,	=	10·4 ,,	16 ,,	=	35·1 ,,
37 ,,	=	11·4 ,,	15 ,,	=	36·4 ,,
36 ,,	=	12·4 ,,	14 ,,	=	37·7 ,,
35 ,,	=	13·4 ,,	13 ,,	=	39·0 ,,
34 ,,	=	14·4 ,,	12 ,,	=	40·4 ,,
33 ,,	=	15·4 ,,	11 ,,	=	41·8 ,,
32 ,,	=	16·5 ,,	10 ,,	=	43·3 ,,
31 ,,	=	17·5 ,,	9 ,,	=	44·7 ,,
30 ,,	=	18·6 ,,	8 ,,	=	46·3 ,,
29 ,,	=	19·6 ,,	7 ,,	=	48·0 ,,
28 ,,	=	20·7 ,,	6 ,,	=	49·8 ,,
27 ,,	=	21·8 ,,	5 ,,	=	51·6 ,,
26 ,,	=	23·0 ,,	4 ,,	=	53·4 ,,
25 ,,	=	24·1 ,,	3 ,,	=	55·0 ,,
24 ,,	=	25·2 ,,	2 ,,	=	57·3 ,,
23 ,,	=	26·5 ,,	1 ,,	=	59·4 ,,

until the introduction of Bang's, which he now preferred as more trustworthy.

Lieutenant-Colonel LEISHMAN showed a series of microscopical specimens illustrating some points in connexion with the Parasites of Malaria. The majority of these specimens were taken from the blood or internal organs of fatal cases of malignant tertian and demonstrated the intensity of the infection in such cases. In the comatose form of this disease it was remarkable that the parasites found in the infected cells in the capillaries of the brain were, almost without exception, segmenting forms; crescents were hardly ever seen. A similar condition was seen in the kidneys, of which a section was also shown. After describing the specimens he pointed out the morphological differences which he had noticed in parasites of this form of malaria received from various parts of the tropics, and said that these appeared to him to support the views of those who considered that there was more than one species of malignant tertian parasite. Specimens of benign tertian and quartan parasites were demonstrated, as well as a case of mixed infection with all three forms. The possibility of the occurrence of parthenogenesis in benign tertian was then discussed; Lieutenant-Colonel Leishman had never encountered forms such as those described by Schaudinn under the name of "gameto-schizonts" but he showed an example of a cell apparently infected by two parasites, one a rosette and the other a gamete, which appeared to him to afford a possible explanation of the forms figured by Schaudinn. Lieutenant-Colonel Leishman further demonstrated living specimens of the flagellated forms of the parasite of kala-azar from a culture on Novy and McNeal's medium which he had received from M. Nicolle of the Pasteur Institute, Tunis.

Captain J. C. KENNEDY, R.A.M.C., read a paper entitled an Encysted Nematode (Œsophagostoma Inflatum) occurring in the intestines of Monkeys (Macacus Rhesus) and causing Septic Peritonitis, and illustrated it with specimens and photographs of the infected parts and of the nematode, its embryo and eggs. The disease was characterised by the presence of cysts containing a sexually developed worm, which had a constant relationship to the longitudinal muscular bands of the cæcum and colon. He explained the origin and the various positions of the cysts thus: the embryo gaining admission to the blood stream lodges in the longitudinal muscular band and causes a slight hæmorrhage which can be seen through the peritoneum as a thin streak in the long axis of the muscle. Here the cyst is developed and as it grows becomes too large to be contained in the muscle; it is therefore squeezed inwards to lie in the submucosa or outwards to become surrounded by peritoneum. Lying in the peritoneal cavity it becomes adherent to adjacent structures such as the omentum. Finally, the worm ruptures the cyst and a local abscess or a general septic peritonitis is produced. He had not been able to find that such a condition had been previously described.

OTOLOGICAL SECTION.

Clinical Cases.—Exhibition of Specimens.

A MEETING of this section was held on March 7th, Dr. PETER MCBRIDE being in the chair.

Mr. H. H. B. CUNNINGHAM showed two cases of Deafness resulting from Epidemic Cerebro-spinal Meningitis.—In the opinion of the meeting nothing could be done for these cases but as a prophylactic measure lumbar puncture was suggested.

Dr. ADOLPH BRONNER read notes of a case of Purulent Otitis Media with Deep Ulceration of the External Meatus occurring in Secondary Syphilis and laid stress on the fact that purulent otitis media is very rare in such conditions. Under antisyphilitic and local treatment the symptoms soon cleared up.

Dr. D. R. PATERSON described an interesting case of Crossed Abducens Paralysis occurring in the course of a Cerebellar Abscess. As a result of operation the patient made an uninterrupted recovery. No opinion was expressed with regard to the causation of the ocular paralysis.

Mr. C. H. FAGGE read notes of a case of a Branchial Sinus leading from the Neck into the External Auditory Meatus. The sinus was excised by operation with complete success.

Dr. W. MILLIGAN described a case of Epithelioma of the Middle-ear of possible Traumatic Origin the result of a blow received nine months previously. The mastoid was opened on account of the severe pain. The patient afterwards died and a large intracranial abscess involving the temporo-sphenoidal lobe was discovered at the post-mortem examination.

Mr. P. MACLEOD YEARSLEY showed a case of Labyrinthine Suppuration in a boy, aged eight years, the result of measles when one year old. The condition was discovered whilst performing the complete mastoid operation, there being no previous symptoms pointing to labyrinthine disease. The vestibule was laid open by removal of bone below the fenestra ovalis. There was an uneventful recovery.

Dr. ALBERT GRAY exhibited specimens and photographs of pathological conditions found in the labyrinth, and Mr. SYDNEY SCOTT histological preparations of the human labyrinth.—These preparations were greatly appreciated and admired by members of the section.

An instructive and interesting paper was communicated by Mr. C. E. WEST and Mr. SCOTT on the Operative Surgery of Labyrinthitis based upon an experience of 30 cases, of which 26 cases were operated upon. The paper was illustrated by specimens of the temporal bone prepared by Mr. West.—A useful discussion resulted in which members expressed varying opinions with regard to the indications for, and methods of, operating on the labyrinth.

MEDICAL SOCIETY OF LONDON.

Discussion on the Diagnosis and Treatment of Fractures of Long Bones.

A MEETING of this society was held on March 9th, Dr. J. KINGSTON FOWLER, the President, being in the chair.

Mr. A. PEARCE GOULD, in opening a discussion on the Diagnosis and Treatment of Fractures of Long Bones, stated that his intention was to suggest certain points on which professional opinion was not yet decided, with the hope that many surgeons would express their opinions on these points. The well-recognised and classical signs of fracture—suddenly produced deformity, localised pain and tenderness, and oftentimes mobility in the length of the bone, with crepitus—were sufficient to lead to the recognition of the great majority of fractures, and the introduction of other means, particularly skiagraphy, should not lessen the thoroughness of the investigation of these older symptoms of fracture. He emphasised the great value of anæsthesia, both in arriving at a correct diagnosis and in applying proper treatment to a recent fracture. By the use of the x rays a fracture could be demonstrated when by other means it would only be suspected and in some cases where even the surgeon had not even previously suspected it. But in such cases it was possible to take the position that the recognition of the fracture had little or no bearing upon the prognosis of the case or upon the treatment. He referred, for instance, to fractures of the carpal bones, to incomplete fissures in long bones, and simple fissured fractures of the vault of the skull. He laid more stress upon the value of the x rays in showing the exact condition of a fracture and referred to the fact that even serious displacement in fractures of long bones might be concealed by the supervening swelling. He submitted that the importance of obtaining really accurate and complete knowledge of the details of a fracture by skiagraphy was one of the questions upon which professional opinion was not yet formed, and in

this connexion he alluded to the difficulty that often arose in interpreting skiagrams. The line of a fracture might be very indistinctly indicated and very easily overlooked. The normal epiphyseal junctions might be mistaken for fractures, and a little want of care in taking a skiagram might readily distort the shadow and present an appearance of displacement which did not really exist. In reference to treatment he pleaded for a much more frequent use of anæsthesia to aid in the reduction of displacement, he urged the importance of immediate reduction, and he insisted that splints should never be employed for the reduction of a fracture but only for the maintenance of the fragments in their corrected position. The important debateable point, he thought, was connected with the necessity for the exact and perfect adjustment of fragments in all cases of fracture. Pointing out the peculiar construction of long bones and the perfect adaptation of the arrangement of the bony lamellæ for the transmission and distribution of pressure and resistance to the pull of muscles, the question arose whether a perfect restoration of function after a fracture of a bone could be expected unless the replacement of the fragments was so exact as not to cause any interruption in the mechanical adaptation of the bone to its special purpose in the skeleton. It was not easy to give a definite answer to this question, for while a study of the mechanics of the skeleton suggested that the structure of the bones was most closely connected with their function, experience of fractures showed that even considerable alterations in the shape of a bone might, in some circumstances, not be very harmful. He referred, for instance, to the result obtained in fracture of the middle of the clavicle and in Colles's fracture. In the weight-bearing bones of the lower limbs he held that serious deformity of the bone was attended with distinct functional imperfection. Upon the answer given to the question depended the real value of the operative treatment of simple fractures. He thought it should be stated that these operations were not easy, that they were attended with rather more than the ordinary risks of modern surgical operations, that in some cases the mechanical difficulties were very great indeed, and that the use of screws, wires, staples, and plates, while undoubtedly of value, was also attended with disadvantage, for they added to the local injury and lessened the rapidity with which the final repair of the bone was effected. He therefore suggested that when employed the procedure should be of the simplest kind, provided that it was also efficient for its purpose. For example, a wire ligature surrounding fragments would often hold them in place, and, if so, was preferable to anything introduced into the bone. He referred to the value of massage and in reference to movements insisted on the much greater usefulness of active movements than of passive movements, and in conclusion spoke of the great improvement that could be obtained in fractures near, and into, joints by patient and gentle manipulations, and use of the part, when violent movements and rough handling only perpetuated the mischief. He thought there was evidence of a power of compensation for deformity caused by fractures, for some patients who at first were lame after a time lost all lameness and disability; it was an important point to ascertain how far this compensation for deformity could go.

Mr. A. E. J. BARKER said that he was in harmony with the views expressed by Mr. Pearce Gould. The attention of the younger members of the profession should be directed to the possibility of treating fractures without recourse to operation; they should be reminded also that there were other means of diagnosing fractures than by the use of radiography. There seemed to be an idea among the younger members of the profession that a fracture could not be diagnosed without an x ray photograph and that without a radiographer a surgeon was hopeless. In regard to the operative treatment of fractures there were, of course, exceptional cases in which it was justifiable. He himself always wired a patella in the case of a fracture of that bone. The treatment by massage must be recognised, and concerning active and passive movements he considered that active movements should be commenced earlier than was usually done and carried out more vigorously.

Mr. ROBERT JONES (Liverpool) urged that stress ought to be laid on the fact that the perfect results of treatment of fractures of long bones talked of in past times could not in reality be expected. He thought that the public needed education in regard to the fallacies of radiography. The public also ought to be taught that bones might be in a bad position with a good functional result from treatment after fracture, and that it was possible after treatment of a fracture to have the bone in good position and yet with a bad functional result. He agreed with Mr. Pearce Gould in regard to treatment by active movement.

Mr. W. ARBUTHNOT LANE said that he was unable to agree with the views expressed by the speakers who had preceded him as he considered it was the business of surgeons to do their work thoroughly in the treatment of fractures. The x rays and the law courts would in the future make surgeons more thorough in their treatment of fractures. That was a condition of things that of necessity would have to come to pass. Mr. Lane then proceeded to place before the society skiagrams of about 30 cases of fracture, in each case showing the condition before and the condition after treatment by operation. The first few cases exemplified the operative treatment of simple fractures and the remainder demonstrated instances of failure in the treatment of fractures by splints, massage, and passive and active movements whereby the necessity had arisen for operative interference. He exhibited the skiagram of a bad ununited fracture of the femur which he termed the barometer of the surgery of the present day, for the patient was informed by most leading surgeons that operation was impossible.

Mr. W. G. SPENCER said that in fractures of the long bones callus was largely formed from the periosteum and in cases where operative treatment was resorted to it had been shown that atrophy took place in the bone within the grasp of an encircling wire or along screws or plates. By reason of the callus in the long bones in the case of a fracture being so largely periosteal in its origin there was not the necessity for extremely exact and precise apposition of the fragments. Unless in exceptional cases, he could not agree that recent fractures in the shaft of long bones ought to be treated by operation, for why should a foreign body be inserted into the bone if the two ends of the bone could be placed in apposition and kept there.

Mr. C. R. B. KEETLEY referred to a paper which he had read before the society on the prevention of shortening and other forms of malunion after fracture by the use of metal pins.

Mr. J. LYNN THOMAS commented on cases of fracture in which he had seen disastrous results occur from operative treatment. He did not consider that anyone should operate on any case of fracture unless there was a certainty that non-operative treatment would not be satisfactory.

After Dr. J. SILLONVILLE had remarked that the attention of the meeting had not been called to the question of extension in the treatment of fracture of the femur, Mr. PEARCE GOULD replied.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Mendelism and Disease.—Exhibition of Specimens.

A MEETING of this society was held on March 6th, Dr. J. ALLAN being in the chair.

Mr. A. S. F. GRÜNBAUM read a paper entitled "Mendelism and Disease." After giving a short account of the life of Mendel and the principal experimental and other facts already ascertained concerning his laws of heredity he proceeded to put forward hypotheses to explain, along the lines of Mendel's theory, immunity and susceptibility and to account for the formation and characteristics of new growths. Where immunity depended on two factors—amboceptor and complement—such immunity would be absent unless each factor were present and in this way an immune individual might arise from two susceptible units. Apart from this, there was no justification for regarding a negative quality like susceptibility as a Mendelian characteristic. Assuming that new growths originated from the conjugation of an epithelial cell with a leucocyte or some similar combination, the offspring might be either a sarcoma or a carcinoma according to the dominant factor, or might remain a benign growth. He emphasised the necessity for complete records of both normal and abnormal members of families if their cases were to be made available for investigation along Mendelian lines.

Mr. R. LAWFORD KNAGGS and Dr. O. C. GRUNER gave a lantern demonstration on a case of Sarcoma of the Femur.

Dr. GRUNER showed microscopical preparations from cases of Gastritis Hyperplastica Chronica in which the wall of the stomach was widely, and in some cases universally, thickened. There was absolutely no evidence of malignant disease, but histologically the tissues were densely infiltrated by inflammatory cells of all kinds and more especially plasma cells. The causation of the condition was not known, though the clinical features resembled those of chronic dyspepsia. There was almost complete absence of the gastric glands. So far six cases had been met with during five years at the Leeds General Infirmary. A specimen was shown illustrating the presence of peculiar "islands" (very similar to those of the pancreas) in the adrenal medulla. They were found with some frequency in 150 consecutive post-mortem examinations and only after childhood. The condition seemed so far to have passed unnoticed.

Mr. ALEXANDER SHARP showed a specimen of Exostosis of the External Auditory Meatus in a patient aged 30 years. The left ear had been almost completely deaf for seven years and during the same period there had been intense neuralgic pain involving the left side of the face and head. On examining the ear there was seen a pale pink bony growth, with smooth surface, which completely filled the meatus; it was excessively tender and there was a history of repeated attacks of inflammation. The growth was found to be attached to the antero-superior meatal-wall and was removed with hammer and gouge by way of the meatus. Since the operation the headaches had disappeared and the hearing had become quite normal.

Mr. B. G. A. MOYNIHAN showed a specimen of Acute Phlegmonous Gastritis. The condition was diagnosed at an exploratory laparotomy. Death occurred on the next day. The stomach was removed through the operation wound. After removal a pure culture of bacillus coli was obtained from the cut surface. The submucous coat was distended with a grey sloughy material from the cardia to the pylorus, consisting chiefly of leucocytes. The mucosa was normal. The muscular coat was somewhat infiltrated with leucocytes. Microscopically diplococci and short wide bacilli, probably sporing organisms, were found.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF STATE MEDICINE.

Alcohol and Mental Disease.

A MEETING of this section was held on Feb. 14th, Dr. W. R. DAWSON, the President, being in the chair.

The PRESIDENT said that his paper was intended merely as a contribution to a general discussion on alcohol. Apart from personal predilections, the uncertainty existing with reference to the effects of that drug was largely due to deficient appreciation of the influence of individual diathesis and of the varying effects of different doses. With normal individuals, in appropriate circumstances, small doses properly diluted, taken with food and not too frequently, were physiologically beneficial. With larger doses the matter was otherwise. A drunken bout was not only a microcosm of insanity but indicated the probable course of chronic alcoholism in the same individual. Different persons showed different symptoms. When alcohol was taken more continuously, though in small doses, the same order of degradation was observed, the "high level" moral and other late-acquired qualities being first affected, then the motor and sensory functions, and, lastly, those of mere nutrition. A complete estimate of the relation of mental disease to alcohol was impossible. Of asylum cases the prevailing opinion seemed to be that from 15 to 20 per cent. were due to alcohol, but this estimate was almost certainly too high. The regional distribution of insanity did not correspond with that of either alcoholism or drunkenness, and it seemed probable that not more than 10 per cent. of the asylum cases were genuinely attributable to alcohol. The cases in which alcohol was merely contributory must be numerous, owing to the susceptibility to alcohol of persons with any hereditary or acquired brain weakness. Though there was the strongest evidence of the evil effects of parental alcoholism upon the offspring, the question had really nothing to do with the transmissibility or otherwise of acquired characters, the phenomena being sufficiently explained by the deleterious action of the drug upon the germs of the future individual. Chronic alcoholism produced worse effects than occasional drunkenness, and bad spirits produced worse effects than pure ethyl-alcohol. As regards the forms of insanity due to alcohol, certain symptoms were suggestive of this cause—namely, impulsiveness, suspiciousness, confusion with hallucinations, loss of memory for recent events, and fabrication of imaginary occurrences. The most purely alcoholic forms were delirium tremens, Korssakoff's psychosis, hallucinatory-confusional insanity, and alcoholic dementia. Pathologically the changes in the more chronic forms were found round the fissure of Rolando affecting chiefly the large pyramids. If alcohol be cut off, the mental improvement is usually rapid, but for the habit itself compulsory prolonged total abstinence is the only cure.

THE MACDERMOT said that he had during the past seven years as inspector of prisons visited one of the Irish prisons almost every week and had tried to make himself familiar, so far as possible, with the penal and family records of the prisoners. He had, in addition, superintended the work of the State Inebriate Reformatory at Ennis during the past four or five years. He entirely disagreed with the neo-Darwinian theory that a great number of the human species had an original taste for alcohol, a taste which, being natural, was not acquired. On the contrary, the theory of Lamarck that a taste for alcohol was an acquired habit and that acquired tastes were transmissible would give great confidence in all temperance movements.

Dr. WALTER G. SMITH said that their chief knowledge of the scientific effects of alcohol was a quite recent growth and he thought that the turning point was reached by Schmiedeberg who, with unanswerable arguments, demolished the view still held by many that alcohol belonged to the class of stimulants. Alcohol was an essential member of the narcotic group of substances. Most medical men were much more cautious now than in his student days about the administration of alcohol, especially in acute disease. They had learned that most diseases got on better without alcohol. To a person in health on a sufficient diet alcohol was absolutely unnecessary and possibly injurious to some people, but it was idle to deny its possible value as a food in some cases. The points which related to the public in regard to alcohol were: (1) its effects in producing visceral disease; (2) its leading to all sorts of crime; and (3) its influence on the nervous tissue. The last was a very complicated question but there could be no doubt as to the deleterious effects of long-continued doses of alcohol on the brain.

Dr. THOMAS DONNELLY said that a great responsibility rested with the medical profession and a great deal of good was now being done through the agency of the profession in putting before the people the physiological action of alcohol and the deleterious effects of over-indulgence. It was exceedingly unwise of physicians to permit alcohol as a beverage without marked restrictions as to its discontinuance after a time. It should not be prescribed in any respect except as a drug and in his opinion should never be given to mothers who were suckling their infants.

Mr. O'CONNELL J. DELAHOYDE, who confessed himself a lifelong total abstainer, having never tasted any liquor that was brewed or distilled, said that statistics did not fully represent the amount of insanity which was directly traceable to alcohol. He on occasions prescribed alcohol, but always under strict conditions.

Dr. NINIAN FALKINER, Mr. G. R. S. STRITCH, Dr. HENRY T. BEWLEY, and Dr. WILLIAM A. WINTER also took part in the discussion.

SECTION OF PATHOLOGY.

Exhibition of Specimens.

A MEETING of this section was held on Feb. 21st, Dr. A. R PARSONS the President, being in the chair.

Dr. JAMES LITTLE, in describing an Exceptional Case of Tuberculosis, said that the patient, a man about 42 years of age, was admitted to a hospital in November, 1907, looking very emaciated. He had only a cough, with a little pain in the right side of his chest. A few days after admission a friction sound was noticed low down on the right side of the chest. His sputum did not give any tubercle bacilli. He complained of abdominal pain; he was always constipated and his temperature was hectic, though not highly so, up to his death on Feb. 8th. About a fortnight after admission it became plain that there was fluid in the right thoracic cavity and after some time 20 ounces of exceedingly bloody fluid were drawn off.

The symptoms improved and the patient lived for two months, ultimately dying from inability to take food, for which he had a total dislike from the date of admission. The specimens exhibited showed an immense blood clot in the right pleural sac. The lung itself did not appear to be affected by any tuberculous formation. The upper surface of the liver and the lower surface of the diaphragm were affected by tuberculous disease and the peritoneum was also the seat of diffuse tuberculous trouble.

Professor A. H. WHITE exhibited a specimen of Gangrene of the Lung obtained about six years ago. The patient was a child suffering from diphtheria. The gangrenous mass was in the right lung; the destruction was quite localised and there was a considerable amount of fibrinous pleurisy. Corresponding to the centre of the gangrenous area and directly facing it was a puncture and outside, between two ribs, the puncture mark was seen surrounded by a dark blue zone. The child had apparently been inoculated with antitoxin at that point directly into the lung and this seemed to be the cause of the gangrene. The gangrenous area was found on examination to contain diphtheria bacilli, amongst other organisms, and efforts to cultivate the organism from other parts of the lung failed. Pure cultures of diphtheria bacilli were also got from the spleen. It was possible, though improbable, that the diphtheria bacilli got there by means of the serum.—Dr. JOHN M. DAY said that the patient was a boy, aged five years, who came into hospital in January, 1902. He had ordinary diphtheria and was injected with 4000 units before admission. About two days after admission he presented symptoms of pneumonia, which, however, disappeared. He then developed great fœtor of the breath and the case was diagnosed as gangrene.

Mr. K. E. L. G. GUNN exhibited five specimens of Acquired Diverticula of the Urinary Bladder. He said that congenital diverticula might occur in a very young bladder but he had never seen a congenital case. Acquired diverticula commonly occurred in the aged and were due to (1) increased pressure; (2) chronic inflammation of the bladder wall; or (3) diminished blood-supply occurring from arterial sclerosis. These diverticula went through three stages; in the first place some obstruction took place and the bladder became hypertrophied in order to drive the urine out. With the increase in the thickness of the muscle covering the bladder wall, fasciculation in the inner wall occurred, followed by a certain amount of atrophy of the muscle. The bladder then commenced to dilate and to thin out in places. Then a bulging occurred between the inner muscular fibres and the mucous membrane protruded, and so a diverticulum was formed.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of the Pathological Section of this society was held on March 5th.—Dr. H. Leith Murray read a note on a Method of Standardising Vaccines. He uses the Thoma-Zeiss hæmocytometer, the diluting fluid being 5 per cent. Giemsa stain in 0·1 per cent. saline solution. This is filtered twice, sterilised, and 4 per cent. of formalin is added. The low specific gravity allows the organisms to sink to the bottom, the trace of salt permits of better staining, and the formalin rapidly arrests movement. The cell is covered in by a thin cover-slip chosen in the following way. A series of slips is cleaned, dried, and applied successively to the cleaned and dried plate-glass slip provided with the apparatus after breathing on the opposing face of each. Pressure is applied to make them adhere and the slips which show Newton's rings well distributed over the surface are selected for use. Counting with $\frac{1}{12}$th oil immersion is begun half an hour after placing the drop. Excess of oil is laid on and the condenser is lightly depressed. The lightly stained organisms are found lying practically motionless at the bottom, but it is advisable to focus throughout the depth of each square to detect any stragglers still floating. Three or four sets of 16 squares can be counted easily in from 15 to 20 minutes. The totals of each set of 16 show a conformity which would indicate that the lack of mathematical flatness, the cover-slip, and the possibility of slight cupping from surface tension are negligible quantities. Controls have amply confirmed the method. Using a red corpuscle pipette and taking vaccine up to the second cross-marking (i.e., a dilution of 1 in 500) the average per small square is only five organisms in a vaccine containing 10,000,000 per cubic millimetre. By using the full dilution of 1 in 1000 it would be possible to bring within range a vaccine containing 200,000,000 per cubic millimetre.—Dr. W. B. Warrington showed: (1) A specimen considered to be Acute Primary Infective Laryngitis occurring in a man, aged 53 years, a tailor's assistant. Death resulted from gangrenous bronchopneumonia. No etiology or source of infection could be traced. 2. A specimen of Thrombosis of the Aorta and Iliac Arteries from a man suffering from Septic Endocarditis. The cause of the thrombosis was considered to be infective endarteritis.—Mr. R. W. Murray showed a section of Columnar-Celled Carcinoma removed from the parietal bone of a lady, aged 60 years. The tumour had been mistaken for a sebaceous cyst. It was regarded as a secondary deposit, although careful examination had failed to show evidence of a primary growth.—Dr. R. G. Wills (for Dr. Nathan Raw) showed: 1. Lungs Infiltrated with Minute Metastatic Growths secondary to carcinoma of the stomach from a man, aged 32 years. The patient had been in good health until two months before his death and had nc subjective symptoms of a stomach lesion. 2. Lung showing Secondary Sarcomatous Deposits from a female, aged 22 years. Amputation through the hip-joint for sarcoma had been performed ten months previously.—Mr. W. Thelwall Thomas and Dr. J. S. Rowlands exhibited: (1) Section of a Rodent Ulcer of the Scrotum from a man, aged 36 years; (2) Carcinoma of Transverse Colon excised from a woman, aged 34 years; and (3) Hypernephroma removed from a man, aged 57 years. In this case hæmaturia was absent.—Dr. R. E. Kelly showed a case of Congenital Cleft in the Sternum in a woman, aged 28 years. The cleft involved the manubrium and first part of the meso-sternum. The cleft was V-shaped and about two inches wide above. Her only child had a perfectly normal sternum.—Dr. J. H. Stansfield showed an Omphalositic Monster, the head and upper limbs being absent and the lower limbs ended in fin-like processes. Along with the monster was born a weakly but living child with a supernumerary digit on the left hand. This was the woman's sixth pregnancy but only the eldest child had survived.—Dr. E. E. Glynn read a note on Rapid Section Cutting as an Aid to Diagnosis. The method employed was that of Dr. Louis Wilson, of St. Mary's Hospital, Rochester, Minn., U.S.A. Pieces of tissue without any preliminary fixation were frozen with ether, cut on a Cathcart microtome, floated out in 1 per cent. salt solution, stained in polychrome methylene blue, washed, and mounted in Brun's glucose medium. The epithelial and sarcomatous cells stained blue and connective tissue pink. An opinion could be given within five minutes of receiving the specimen. The method had been used in ten instances. In none had the opinion formed regarding the malignancy of the tumour been misleading.—The notes and specimens were discussed by Dr. Glynn, Dr. Warrington, Dr. J. Lloyd Roberts, Dr. F. H. Barendt, Dr. J. Hay, Mr. Thelwall Thomas, Mr. D. Douglas-Crawford, and Mr. Murray.

HUNTERIAN SOCIETY.—A meeting of this society was held on Feb. 26th, Mr. F. Rowland Humphreys, the President, being in the chair.—Dr. A. Butler Harris read a paper on Treatment by Bacterial Vaccines. He defined a bacterial vaccine as a standardised emulsion of the dead microorganisms in saline solution, in contra-distinction to the antitoxic sera. He referred to Wright's views on sera and the method of obtaining them. The parallels of artificial and self-induced immunisation were discussed, with special reference to the use of minimal doses of specific bacterial vaccines when inoculation was exploited. The necessity for employing vaccines obtained from cultures of the particular organism infecting the individual was emphasised. In the case of pneumococcus infection of the lung, and coli infections of the bladder and other organs, this procedure was particularly insisted on. Dr. Harris alluded to four cases of pneumonia under his care in which bacterial inoculation had undoubtedly produced an artificial crisis with recovery. A case of endocardial infection by the streptococcus which was characterised by periodic attacks with a corresponding variation of the opsonic curve was described. In this case the streptococcus was isolated from the blood and a vaccine was made and successfully employed. Dr. Harris pointed out the clinical conditions which favoured or hindered improvement under bacterial inoculation. He stated that one of the chief factors in retarding recovery was tissue destruction combined with the laying down of fibrous tissue. These conditions militated against the flooding of the infected areas with blood rich in antibacterial substances. He instanced these phenomena by comparing the conditions in tuberculous with those in pneumococcic infection of the lung. The congestion and non-destruction of tissue in pneumonia were favourable to a rapid immunisation. Following the argument he instanced

the help von Bier's method had proved in inducing a better supply of blood to the infected areas. He urged the adoption of free surgical interference in chronic abscesses and sinuses, followed or even preceded by the employment of an appropriate bacterial vaccine. The signal results obtained by the use of minimal doses of tuberculin in the early glandular infections of young children were alluded to. After illustrating the effect of bacterial inoculation in various staphylococcic infections of the skin by cases which had come under his own observation, he remarked that he considered the employment of vaccines was but a link in the chain of general treatment, of which medicine was at one end and surgery was at the other.—Mr. James MacMunn read a paper on the Modern Treatment of Diseases of the Lower Urinary Tract. He said that radical cure of stricture of the urethra would more often follow internal and external urethrotomy if the anatomy of stricture were borne in mind and the after-treatment were somewhat different. In internal urethrotomy the stricture should not only be well divided but the edges of the wound should be kept apart and artificially varnished till covered by epithelium, irritation being avoided. In external urethrotomy failure often arose from the agglomeration of the cellulo-cutaneous cicatrix with that in the urethra, forming a larger contractile mass. In some cases making the superficial cut to one side of the middle line was therefore advocated. Dilatation was usually much more efficient if followed by the pressure of a bottle of hot water to the perineum. It could be done when the patient retired. In urethritis avoidance of hyperæmia was the first indication. He suggested that the bulb of the urethra was a pouch for semen before the latter was finally expelled and that it might be styled the ampulla urethralis seminis.—Dr. A. W. Wakefield gave a demonstration on the Employment of Bier's Method of Congestion for cases of sepsis, mastitis, tubercle, gout, gonorrhœal arthritis, &c. The bandage method with modifications for the shoulder and digits was shown. Then the suction apparatus was explained and its many modifications, including the simple means by which an ordinary douche glass, a piece of rubber sheeting, a Sprengel pump, and some rubber tubing might be fixed up to form an efficient suction apparatus at the cost of a few shillings only. Emphasis was laid on the simple and almost the only rule of Professor Bier, that congestion must relieve and not cause pain. Bier was also of opinion, and in this was supported by nearly all authorities on the subject, that in the case of tubercle congestion should not be maintained for more than an hour daily. Brief allusion was made to the extraordinary results achieved in many cases by this treatment.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on March 6th, Dr. W. Langdon Brown, the President, being in the chair.—Dr. T. Grainger Stewart read a paper on Vascular Lesions of the Nervous System. He described the pathogenesis of the various forms of vascular lesion and the pathological changes which result from (1) a partial cutting off of the blood-supply without softening; (2) complete occlusion of a cerebral vessel; and (3) rupture of a cerebral vessel. After referring to the effects of such lesions occurring in early life and the clinical manifestations to which they gave rise, he passed on to the consideration of these lesions when occurring in the adult. Speaking of the relative frequency of thrombosis, embolism, and hæmorrhage, he pointed out that thrombotic softening was the most common lesion despite the greater frequency of hæmorrhage, as noticed in the post-mortem records of general hospitals, and that in special hospitals and in workhouse infirmaries the relative frequency was reversed. The chief vascular diseases giving rise to the production of thrombotic occlusion were (1) syphilitic endarteritis which was the common cause of thrombosis in early middle life and such cases often occurred within two or three years after the primary infection, in some cases within 12 months; and (2) atheroma which was the chief factor in cases occurring in later middle life and old age. Embolic softening was comparatively rare and usually took place during an attack of malignant endocarditis or pyæmic affection. Cerebral hæmorrhage was dependent upon two factors, the weakening of the vessel wall and a blood pressure sufficient to cause rupture of the weakened vessel. In cases of pure cerebral hæmorrhage the association of vascular disease, chronic renal disease, and hypertrophy of the left ventricle was striking, and also the fact that in these cases a sudden increase in blood pressure due to emotion or physical strain was the usual exciting cause of the stroke. In other cases, in addition to the vascular changes, weakening of the supporting perivascular tissue from previous thrombotic softening still further favoured the occurrence of hæmorrhage without any sudden increase in the blood pressure. In the records of 22 cases of cerebral hæmorrhage in 13 there was evidence of previous thrombotic lesions. After describing the clinical distinctions between the onset of thrombotic, embolic, and hæmorrhagic apoplexy he referred to the prognosis. In syphilitic thrombosis the outlook was favourable both as regards the stroke and the subsequent duration of life; in atheromatous cases the duration of life seldom exceeded three years but might be prolonged for five years, but in both forms the presence of renal disease and cardiac hypertrophy rendered the prognosis very unfavourable. In ventricular hæmorrhage death as a rule resulted within 14 hours. When the hæmorrhage was confined to the brain substance the prognosis was not so favourable as in thrombosis and the subsequent duration of life was rarely over 18 months. In meningeal hæmorrhage intradural and basal hæmorrhages were rapidly fatal, but ingravescent cases and post-traumatic cases might, if recognised early, result in complete recovery as the result of operative measures. The treatment consisted of rest and quiet and the early use of iodide of mercury in the syphilitic cases. In thrombosis the patient's vitality must not be lowered and where there was any hypertrophy of the heart cardiac stimulation must be rigorously avoided. The state of the blood pressure must be the guide in all cases, an endeavour being made to keep it at a suitable and constant level.—The President showed several organs of a man who had died from Melanotic Sarcoma which had in the first instance affected the right eye. Practically the whole of the left lung was converted into a mass of melanotic sarcoma and there were growths in the pericardium, diaphragm, pancreas, and intestines.—Dr. B. G. Morison showed a woman, aged 50 years, with extreme Chronic Rheumatoid Arthritis of both Hands and Feet.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 4th, Mr. J. Mackie being in the chair.—Dr. A. B. Dunne showed a boy, aged 11 years, from whom he had removed a Darning-needle over three inches in length, which had become imbedded in the gluteal muscles and probably penetrated the great sacro-sciatic ligament.—Mr. W. Morley Willis showed a girl, aged 14 years, from whom he had removed the Breast and Axillary Contents a fortnight before for a tumour of doubtful nature (? adeno-sarcoma), microscopic sections of which were also shown.—Mr. Willis also showed a woman, aged 41 years, both of whose Breasts contained hard nodules, probably due to chronic mastitis of four years' duration, with glandular enlargement on one side.—The cases were discussed by Dr. W. Tibbles, Dr. J. Watson, Dr. A. M. Webber, Dr. J. A. O. Briggs, Mr. A. R. Tweedie, Mr. K. Black, and Dr. W. Hunter, and Mr. Willis replied.—Mr. Willis read a paper on Some Common Causes of Urinary Obstruction and their Treatment. The causes included in the male phimosis, urethral foreign bodies and calculus, urethritis, stricture, prostatic hypertrophy, and prostatic hæmorrhage, which might even distend the bladder. In the female the causes alluded to were imperforate hymen and retained menses, urethral papilloma, uterine fibroids, retroverted gravid uterus, and calculus.—The paper was discussed by Mr. Mackie, Dr. J. H. Thompson, Dr. Hunter, Dr. J. A. Waring, Dr. A. J. Sharp, Dr. A. C. Reid, Dr. Briggs, Dr. Dunne, Mr. Tweedie, and Dr. J. W. Scott, and Mr. Willis replied.

WINDSOR AND DISTRICT MEDICAL SOCIETY.—A meeting of this society was held on Feb. 25th, Mr. W. A. U. Thomson (Maidenhead), the President, being in the chair.—Dr. F. J. Hathaway (Windsor) exhibited a case of Charcot's Disease of the Knee-joint. The case was one of some years' standing and there was great deformity. —Dr. S. G. Tippett (Staines) showed a man suffering from some Obscure Nervous Symptoms thought to be due to Commencing General Paralysis.—Dr. A. O'Neill (Windsor) showed a case of Aneurysmal Varix of the Hand and Arm which had existed since childhood.—Dr. E. S. Norris (Eton) showed a woman, aged 43 years, with a large Inoperable Carcinoma of the Breast.—Dr. C. R. Elgood showed a man, aged 22 years, whose heart had undergone perfect Compensation after most Extensive Valvular Lesions. The patient appeared to be in excellent health and

had been working as an ordinary labourer for some time.—Dr. W. J. Maurice (Reading) read a paper entitled "A Few Notes to Illustrate the Dangers of Delay in Performing Operations." After remarking that every practical surgeon knew that his failures were mostly due to delay, either on his own part or on that of those who had been attending the case before him, or to the unwillingness of his patient to submit to operation in good time, Dr. Maurice said that he could always recall plenty of cases in which success could be attributable to little else than a prompt recognition of the needs of the case and immediate and appropriate action. The older and the more modern ways of dealing with strangulated hernia were contrasted and a case was cited showing that the old methods of vigorous taxis coupled with a certain amount of expectancy had not yet entirely died out. Dr. Maurice next related some cases in which the dangers involved in delaying operation were very manifest—a case of pyloric obstruction being the first example given. Three cases of twisted ovarian pedicle were next detailed; all were successful but in each instance it was evident that delay in operating would have proved fatal. A case was next related of a patient with a pelvic abscess who lost her life solely owing to the postponement of operation, the abscess which originally burst into the vagina filling again and rupturing into the peritoneum. A fatal case of strangulated bowel was also recorded in which it was conceivable that an early operation might have saved the patient. Delay in operating also appeared to be responsible for the death of a patient with ruptured intestine. Dr. Maurice concluded his paper with a few remarks on acute appendicitis which were listened to with great interest. He was of opinion that suppuration was more frequent and occurred earlier than was the case a few years ago. He said that he was in the habit of operating immediately upon any acute case that was not decidedly better at the end of 48 hours; if the pulse were quick and the symptoms generally active he would operate still earlier—as soon as the chance presented. If pus were present it could be evacuated; if not, the appendix could be removed and the patient saved further trouble. Finally, after remarking that he had often had occasion to regret the postponement of operation, Dr. Maurice said that he could not recall a single instance in which he regretted having operated.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 7th, Mr. Richard Lake, the President, being in the chair. The following specimens, amongst others, were shown:—Mr. Cecil H. Leaf: (1) Two specimens of Fibroid of the Uterus removed by Supravaginal Hysterectomy; (2) Multiple Cystic Tumour of the Thyroid removed by Operation; and (3) Carcinoma of the Rectum removed by Kraske's Method.—Mr. W. McAdam Eccles: Specimens illustrating some of the Less Common Diseases of the Testis.—Mr. J. G. Pardoe: Two specimens of Malignant Hypernephroma, and microscopical slides.—Dr. D. Arthur: X-ray Diographs.—Mr. Donald J. Armour: Goitre (Exophthalmic).—Dr. A. E. Russell: Congenital Narrowing of the Subclavian Artery, simulating Aneurysm, associated with Angina Pectoris.—Mr. F. Swinford Edwards: Enlarged Prostates.—Dr. G. P. Low: Pathological specimens—Tumour of Liver; Spine showing Erosion by Aneurysm; Intestine showing Dysenteric Ulceration; Pachymengitis Hæmorrhagica; and Aneurysm of Transverse Arch Bursting into Œsophagus.—Dr. H. Macnaughton-Jones: (1) Two specimens illustrating the Difference between Ovarian and Tubo-ovarian Blood Cysts; (2) a series illustrative of Malignant Disease of the Ovaries; (3) a series illustrative of Sclerosis and Cirrhosis of the Ovaries; (4) three specimens of Primary Tuberculosis of the Fallopian Tube; (5) four coloured plaques of the Female Pelvis (showing all the organs); (6) a skiagraph of Calculus of the Kidney with the removed Calculus; and (7) a skiagraph of the Ankle-joint showing Ankylosis (after bullet wound).—Mr. Aslett Baldwin: Horseshoe Kidney; Knee-joint showing Osteo-arthritis; section of Anthrax of Cheek due to a Flybite; and other microscopic specimens.—Mr. Ernest H. Shaw: (1) Tuberculous Tumours in the Brain of a Child; (2) Mixed Tumour of Submaxillary Salivary Gland; (3) Fibroids of Uterus, one calcified; and (4) Cystic Hæmorrhagic Carcinoma of the Breast.—Mr. C. R. B. Keetley: Malignant Growth of the Intestines.—Dr. J. H. Dauber: Uterine Fibroids.—Mr. A. C. D. Firth: Sarcoma of the Intestine.—Dr. Phineas S. Abraham: Photographs of Skin Diseases.

Reviews and Notices of Books.

Judicial Statistics, England and Wales, 1906. Part I., Criminal Statistics. London: Wyman and Sons. 1908. Pp. 203. Price 2*s.* 3*d.*

THE fourteenth volume of the new series of criminal statistics contains the usual information relating to crime and criminal proceedings during the year 1906. The figures are arranged in the same tabular form which has been followed since the revision of the statistics by the departmental committee appointed by Mr. Asquith in 1892. This year, however, the comparative tables have been carried back to 1857, the year in which the judicial statistics were first published, so that they afford a comprehensive view of the movement of crime during the past half century.

Considering first the figures for 1906, we find that the amount of serious crime during the year was lower than in 1905 and was also below the average for the period 1902-06. This decline is shown, though in somewhat different degree, by all the available measures—number of crimes reported to the police, and number of persons tried for, and number of persons convicted of, indictable offences. Of these criteria the number of persons tried for indictable crimes is usually regarded as the most trustworthy. In 1906 this number was 59,079, while in 1905 it was 61,463, and during the period 1902-06 it averaged 59,203. The decline indicated by these figures, though slight in degree, is noteworthy because it shows an arrest in the upward tendency which characterised the movement of serious crime during the seven years 1899-1905.

As has often been pointed out the statistics of crime taken as a whole are indicative simply of the amount of crimes of acquisitiveness, which constitute about four-fifths of the total delinquency in this country. They, therefore, afford no guidance as to the tendency in crimes of violence and of lust, which may, and in fact very frequently do, move in an opposite direction. This was the case in 1906, the fall in offences of acquisitiveness being accompanied by a rise in the amount of homicidal and of sexual crime. Crimes of violence increased by 8·5 per cent. and crimes of lust by 7·5 per cent. as compared with the figures for 1905. These oscillations in the several categories of delinquency in 1906 coincided with, and may presumably to some extent be attributed to, the economic conditions which prevailed during the year. Wages in 1906 showed a net increase for the first time since 1900. The percentage of unemployed amongst members of trade unions was the lowest recorded since 1901. The general level of wholesale prices was higher than for the preceding 16 years, while there was at the same time a perceptible decline in the prices of food and drink. The total of imports and exports and the total sum dealt with at the London Clearing House showed considerable increase. There was a slight decline in pauperism. The year, therefore, was emphatically one of general prosperity, and it is, of course, the rule that in such years thefts diminish while crimes of violence and of lust and drunkenness increase.

While 1906 conformed fully to this rule as regards the several varieties of serious crime, it is remarkable that despite the increase in homicidal and sexual offences there was a fall in the number of assaults tried summarily and in the number of prosecutions for drunkenness, the decrease under each head amounting to about 3 per cent. on the figures for the preceding year. The explanation of this fact is probably to be sought rather in a slackening of police activity than in any change in popular manners calculated to sever the regular association of good times with increased drunkenness. Several points which appear on a closer scrutiny of the

figures would support this view. Thus, coincident with the decrease in prosecutions for drunkenness, several other offences against the Licensing Acts showed a falling off which is far too large to be attributed solely to progress in temperance and in respect for law. Offences against the closing regulations, for instance, fell to half the number recorded in 1905, and the offences in connexion with the sale of drink to children and to habitual drunkards were also far fewer in number. These changes suggest that the zeal displayed by the police during the period immediately following the liquor legislation of 1901 and 1902 has abated, and it is probable that the apparent decrease in drunkenness is similarly to be regarded, at least in part, as merely an expression of a more tolerant attitude towards the convivial offender. This would at the same time account for the diminution in the number of assaults in 1906, since this diminution was almost entirely in the category of assaults on constables which, of course, in a large proportion of cases are incidental to the arrest of drunken persons.

The decided increase in crimes of lust in 1906 is interesting as showing an exaggeration of the upward tendency observable for several years past in this variety of delinquency. This tendency was manifest in nearly all the subclasses of sexual crime and was even more pronounced in homosexual offences than in assaults on women. The special frequency of sexual crimes in 1906 is referred by the editor of the statistics to the meteorological conditions of the year. The summer was unusually fine, the mean temperature of the year and of the summer months was above the average, and the number of hours of sunshine was about one-fourth more than the normal. As a large number of the offences of this class are perpetrated in the open air these conditions would obviously have increased the opportunities for their commission. A curious feature of the returns, and one the explanation of which is not very clear, is that rape and indecent assault were very much more frequent in August than in either July or September. As a general rule, these offences are pretty equally distributed over the three months mentioned and when there is any decided predominance it is usually shown in July. This is also the case ordinarily with other impulsive crimes, such as homicidal offences and attempts to commit suicide, and in the year under review these two classes of crime followed the usual course and reached their maximum in July. The exceptional prevalence of sexual crimes in August is the more singular as that month in 1906 contained fewer Sundays than July or September, and must therefore have been less influenced by week-end carousing.

Non-indictable offences, both those of a criminal and those of a merely quasi-criminal character, decreased during 1906, the total number for the year being 700,973, as against 729,727 in 1905. The decrease was spread over a great number of headings but was most marked in drunkenness, assaults, prostitution, and vagrancy offences. It is perhaps significant, in connexion with the increase in sexual crime, that the non-indictable offence of indecent exposure showed an increase of 5 per cent. on the figure for 1905.

From the tables relative to coroners' inquests it appears that the total number of such inquiries held during the year was 36,570 (or 69 per 1000 deaths), which is not far from the average for the last five years. Out of the total number of deaths which were the subject of inquest 14,293 were found to be due to natural causes or old age, 14,805 were accidental, 223 were still-births, and in 2133 cases open verdicts were returned. Excluding three cases of justifiable homicide and eight judicial executions there remain only 5105 deaths ascribed to criminal violence or culpable neglect. Of these, 3434 were cases of suicide, this number being 2 per cent. lower than the figure for 1905. This slight decrease can hardly be taken as evidence of any real check to the upward movement of suicide which has been a striking fact in English vital statistics for a good many years past. It may be noted that attempts to commit suicide did not show any similar decrease, the number reported to the police during the year amounting to 2497—the highest figure yet recorded. Of the other cases of violent death 155 were attributed to wilful murder and 110 to manslaughter. 21 persons against whom verdicts of wilful murder were returned committed suicide at the time of the murder. The number of criminal lunatics received into asylums during the year was 241, of whom 76 were found insane by verdict of jury, three were certified insane before trial, and 162 were certified insane after conviction. The total number of criminal lunatics under detention at the end of the year was 955, of whom no less than 425 had committed murder.

The comparative tables of crimes and offences since 1857 are supplemented by an interesting series of diagrams illustrating the movement in the different varieties of crime in the last 50 years. During that period the total number of indictable offences (i.e., mainly crimes of acquisitiveness) has oscillated between the extremes of 48 453 (in 1860) and 63,268 (in 1882). The absolute number of such offences in 1906 was very nearly the same as in 1857 which, in view of the growth of population in the interval, is equivalent to saying that theft has decreased by about 40 per cent. During the same period there has been a slight absolute and therefore a very considerable relative decrease in homicidal crime, while sexual offences on the contrary have tended to increase. It is suggested by the editor that the increase in the figures for the latter class may be due largely to the creation of new offences, but against this view we may put the fact that the relatively stable group of homosexual crimes shows the same change, the number of such crimes in 1906 being no less than 66 per cent. higher than in 1857.

Nisbet's Medical Directory, 1908. In two parts. Part I., Directory of Medical Practitioners; Part II., The Local Directory. London: James Nisbet and Co., Limited. Pp. 790. Price 7*s.*

THE editor in his preface states that "Nisbet's Medical Directory" has been compiled for the purpose of supplying a handy, accurate, and inexpensive list of medical men conveniently and concisely arranged in alphabetical order. There is no doubt as to the handiness of the book, and its extreme lightness is somewhat surprising when it is considered that the book comprises nearly 800 pages. With regard to its accuracy, so far as we have tested the correctness of the entries it can be fairly stated that the directory is able to stand with success a close and critical examination. The publishing price of 7*s.* is moderate in an age of competition. The arrangement of the names in a single list in alphabetical order presents great convenience; indeed, we fear that medical men may have to complain that the new directory affords a far too convenient means for the issue of circulars and samples by numerous mercantile firms. The way in which medical men are entered and described has been dictated by the intention to economise space. After the name and address follow the telephone number and the year of qualification with the various diplomas, degrees, and distinctions set forth in a concise and approved manner; the place of education is next stated, after which comes one present or past appointment, and the record concludes with the name of one publication or literary work. It was doubtless anticipated that the return of the schedules from the members of the medical profession would not be absolutely complete and accordingly we find the editor explaining in his preface that in the case of those who have not made a return the name, address, and medical titles have been adopted from the official record of their registration under the Medical Act. A local list forms the second part of the volume and this again is arranged

in alphabetical order, an innovation which certainly has much to commend it. As comparison with the well-known and valuable Medical Directory published by Messrs. J. and A. Churchill is inevitable, we may say at once that we do not consider that either work will interfere with the other. Nisbet's Directory is compiled on an original plan and if its future issues are kept up to the present standard success may be safely anticipated for it. It does not take the place of Churchill's Directory, giving deliberately so much less information, but it is an extremely useful alphabetical list of the profession.

The Romance of Medicine. By RONALD CAMPBELL MACFIE, M.A., M.B., C.M. Aberd. London: Cassell and Co. 1907. Pp. 312. Price 6*s.* net.

THE author of this book has evidently been at some pains in its writing and we can fully credit his claim to have consulted 300 volumes in the process. The result is a *pot-pourri* of popular science and of medical history, presented with a certain smartness which at times gets a little out of hand. Thus: "Hitherto man had dared to consider himself a little lower than the angels, now he might venture to consider himself a little higher than the amœbæ. Now might he say to the worm, 'Thou art my brother and my sister,' and to the tubercle bacillus, 'Thou art my brother Cain.'" And again: "We read in the first chapter of Genesis how, when God made Eve from one of Adam's ribs, He anæsthetised Adam before the operation"; and we could extend our illustrations of the point. On the other hand, he can turn a phrase prettily and pointedly, as thus: "Lister succeeded because his surgical methods were the fruit at once of science and of art." Again, he sometimes writes loosely in his desire for effect. "The civilised consumptive has merely to cough to kill," which is a somewhat mischievous statement; and "At the time when appendicitis was in fashion most fashionable people had their appendices removed." We think that Dr. Macfie's view of Aristotle is somewhat unfair, and on p. 43 he uses the word "dogma" as if it meant "*unsound* opinion" instead of merely "opinion." However, here he is in accord with one school of modern "educationists." All this is a pity, because Dr. Macfie has very evident appreciation of his subject, the inherent romance of the progress of medical knowledge and its beneficent results to the human race, and in some measure he has succeeded in showing it forth. Thus the chapters in which he describes such discoveries as those of the circulation of the blood, the pathogenic rôle of anopheles and stegomyia, and the anæsthetic properties of nitrous oxide, ether, and chloroform must needs compel in their readers an added respect for the science of medicine. The history of anæsthesia is especially well narrated, as is the deathless story of Pasteur's victory over hydrophobia. In telling this Dr. Macfie has drawn freely upon Vallery-Radot's enthralling biography of his revered master, and the inclusion of the beautiful story of Pasteur's dealings with his little Alsatian patient Meister in these pages may perchance turn the heart of some bigot who persistently denies the bare possibility of any humane feelings in an apostle of pathological research. These chapters, which show the substance of true romance, will probably have much more value for the general reader than those in which he is told of serums, opsonins, side-chains, and the like, of which he could gain only the faintest conception from these pages. Still less to our taste is the last chapter, with its summary of the more sensational aspect of modern surgery, its text-book description of a case of myxœdema, and other matters which we regret that the author has addressed to the general public. There is much matter, however, in the volume to interest most people legitimately and medical men who have scant leisure for the study of the archives of their mystery will find a good store of delightful knowledge in its pages. Of this we may further instance the author's accounts of the well-nigh Sybilline prevision of many of the greatest discoveries in medicine, which has not seldom been possessed by men living even centuries before the advent of the master who should reveal them fully, as witness the writings of Cesalpinus, Bassi, and Place, who each in his day respectively foreshadowed the great work of Harvey, Pasteur, and Lister. And Dr. Macfie provides other food for deep reflection in his pages. We thank him especially for his spirited version of the story of Simpson's chloroform party.

Diseases of the Stomach. By Dr. I. BOAS, Specialist in Gastro-Enteric Diseases in Berlin. The sole authorised English-American edition from the latest German edition. By ALBERT BERNHEIM, M.D. Freiburg, Assistant to the late Dr. D. D. Stewart at the Polyclinic Hospital and Post-Graduate School as Instructor in the Department of Diseases of the Stomach, &c. Philadelphia: F. A. Davis Company. 1907. Pp. 730. Price $7 net.

THE first part of this work, after a voluminous series of prefaces, is devoted to an account of methods of examination and to a general review of the therapeutic procedures which are applicable to diseases of the stomach. The second part deals with gastric disorders *seriatim*, both organic and functional. The account given is very full and explicit; indeed, Dr. Boas's reputation is sufficient guarantee that the matter of the book is satisfactory. The translator from time to time adds notes derived from his own experience and that of other American writers, which are incorporated in the text. In one place no less than ten pages are quoted verbatim from Dr. Hemmeter's book on Diseases of the Stomach. The translation possesses about the degree of merit commonly found in American translations. It would have been expected that in a population in which so large a German element was present it would be easy to find translators having a competent knowledge of both English and German. Yet it is quite the exception to find a translated work in which it is possible for a minute to forget that we are not studying an original production. We may quote such sentences as the following, the italics being in every case our own: "Other forms of artificial feeding have not been *naturalised* in the treatment of gastric ulcer"; "a source of mistaken diagnosis *rests* in the fact ....."; (cancer) "begins gradually to *slide from old age to the strongest middle life*"; "an *aspirable* object"; (œdema) "is, therefore, if present at all, likewise but a *sustaining* symptom"; and the "*rash* occurrence of cancer." We venture to doubt whether such expressions can be justified even as characteristic of the American dialect; they cannot be called English. Fortunately, as a rule, the text of the book is intelligible, if not elegant, and the translation may be of use to those who desire to study Dr. Boas's valuable writings but who cannot master the original German.

LIBRARY TABLE.

Diagnostik der Bewegungsstörungen der Augen. (Diagnosis of the Disorders of Mobility of the Eyes.) By Dr. Med. E. LANDOLT, of Paris. With one plate and 23 figures in the text. Leipsic: W. Engelmann. 1907. Pp. 94. Price 3 marks 60 pfennigs.—Dr. Landolt must find it an easy and a congenial task to write an elementary introduction to the study of the ocular muscles. He has already written the articles on this subject in the now almost obsolete French treatise of de Wecker and Landolt and in the new edition of the great German treatise of Graefe and Saemisch. The present brochure contains nothing new and is purely elementary in its scope. It is characterised by the lucidity which we are accustomed to expect from French writers in general and from Dr. Landolt in particular. After dealing very briefly with the anatomy and physiology of the ocular

muscles the fundamental optical principles are reviewed, including the prismatic action of spherical glasses. We note that the author adheres to the nomenclature κ for the angle usually measured as the angle γ; since it is the angle κ which is always measured we hope that other writers may be induced to follow his example. Disorders of the muscle movements are discussed under paralytic squint, concomitant squint, nystagmus, and so on. There is a table of the effects of paralysis of the individual muscles, including the diplopia induced, and numerous charts showing the fields of fixation are given. A section follows on the site and causes of the defective movements, treating briefly of isolated paralysis of individual muscles and unilateral and bilateral ophthalmoplegias. The pamphlet, for it is little more, is beautifully printed and illustrated and is a pleasure to read. It can be safely recommended to the student who reads German as a simple, clear, concise, and trustworthy introduction to the subject.

The Preservation of Infant Life. A Guide for Health Visitors. Six Lectures to the Voluntary Health Visitors in the Borough of St. Pancras. By EMILIA KANTHACK. London: H. K. Lewis. 1907. Pp. 92. Price 1*s.*—We turned to these lectures with a double interest: firstly, because they are concerned with a movement which may become of national importance; and, secondly, because they were delivered by the sister of a distinguished and lamented member of the purely scientific ranks of our profession, the late professor of pathology at Cambridge. The book is well worthy of the name which it bears and we can heartily endorse the recommendation from the medical officer of health of St. Pancras which constitutes its preface. Miss Kanthack is a certified midwife and she wisely distinguishes the line of duty between the members of her calling and the health visitors who volunteer to look after their cases when the puerperium has run its ten days. The first chapter deals with the problem of infant mortality and its alleviation by the health visiting system, and it contains much shrewd ethical advice. The scope of the remaining lectures is well indicated by their titles: "The Hygiene of Pregnancy," "Washing and Dressing the Baby" (Miss Kanthack's pupils had the opportunity of seeing this demonstrated on a life-sized jointed doll), "Infant Nutrition," "The First Year of Life and Minor Ailments," and "The Common Diseases of Infants and their Recognition." The teaching throughout is good and not the least of the book's attraction is the bright and breezy manner of its writing. We recommend it to all who are interested in a growing and important movement in national hygiene. Many "educated" mothers might profit greatly by reading it for themselves; at any rate, their babies would if their mothers followed the advice which they found in it.

Annual Report of the Imperial Bacteriologist of India for the Year 1906–1907. Calcutta: Office of the Superintendent of Government Printing, India. 1907. Pp. 27.—This report, as has always been the case, shows an immense amount of work accomplished by Dr. A. Lingard at the Imperial Laboratory at Muktesar. His labours have consisted in the preparation of the different sera and other prophylactics which occupied the attention of himself and his subordinates throughout the year. In addition experiments were conducted with a view to test the potency of hæmorrhagic septicæmic serum and also the efficacy of atoxyl in destroying the trypanosomata of surra and dourine. Experiments with the object of determining whether Indian elephants are susceptible to the trypanosoma Evansi from an equine source were carried out and observations were continued with regard to trypanosomiasis in camels. Further, four Australian horses were immunised and hyper-immunised for the preparation of tetanus antitoxin. Apart from that investigation officers of the Civil Veterinary and of the Army Veterinary Corps attended the theoretical and practical classes, whilst 49 veterinary assistants were trained at Muktesar and Bareilly. Amongst the results obtained from the above investigations the Indian elephant was proved to be insusceptible to rinderpest; spirochætosis was met with during the year under review in hill and plain cattle affected with rinderpest (this form of disease had not previously been recognised in this country); and another interesting section gives the effect of different doses of atoxyl in equines the subject of spontaneous equine trypanosomiasis. Unfortunately for India this is the last report that will be submitted by Dr. Lingard, for this hardworking and able officer has now retired from the Civil Veterinary Department after 17 years of unremitting toil. It is at least satisfactory to note that the Government of India desires to place on record its appreciation of the valuable services rendered by him to veterinary science during the period in which he has held the office of Imperial bacteriologist.

JOURNALS AND MAGAZINES.

Proceedings of the Royal Society of Medicine. Vol. I. No. 4.—Perhaps the most important communication in the present number is the paper on the Pathology and Treatment of Chronic Constipation read before the Medical Section by Dr. A. F. Hertz. His ingenious applications of the "bismuth meal" and the radiographic record of its progress through the alimentary tract are worthy of most careful study in connexion with constipation. Amongst the cases recorded in the Clinical Section those of Multiple Telangiectases and Angiomata, by Dr. Sidney P. Phillips and Dr. F. Parkes Weber, are striking. In the Electro-therapeutic Section a remarkable case of Gonorrhœal Warts which was successfully treated by x rays is figured and described by Mr. A. D. Reid. The Epidemiological Section is devoted to an important discussion on Rubella, founded on papers by Dr. E. W. Goodall and Mr. H. E. Corbin, which will take a useful place in the literature of German measles. The old question as to the existence or not of a "fourth disease" arose again in the course of the debate. Mr. W. H. Battle and Mr. S. G. Shattock contribute an elaborate and interesting paper to the Pathological Section on a remarkable case of Diffuse Cancellous Osteomata of the Femur following a Fracture, in which similar growths afterwards developed in connexion with other bones. A noteworthy feature of this paper is that it is prefaced by a neat little summary of its contents in Latin for the benefit, we suppose, of "foreign colleagues." Many will rejoice that its authors were faithful to the old *lingua franca* of science and were not tempted to fulfil their purpose in Esperanto. The Laryngological and Dermatological Sections are largely devoted to accounts of cases many of which have appeared in these columns, and the Obstetrical and Gynæcological Section is occupied with a case in which enucleation of a uterine fibroma was undertaken by Dr. Herbert Williamson in the seventh month of pregnancy. In the Therapeutical and Pharmacological Section Dr. W. E. Dixon writes on Arterio-sclerosis and Dr. A. R. Cushny on Nutmeg Poisoning.

The Journal of Physiology. Edited by J. N. LANGLEY, Sc.D., F.R.S., with numerous coadjutors. Vol. XXXVI., No. 6. London: C. F. Clay. Feb. 28th, 1908. Price 8*s.*—The contents of this number are: 1. C. T. Symonds, B.A. Oxon., Wave-like Variations in Muscular Fatigue Curves. Mr. Symonds shows that when certain frog's as well as other muscles, both amphibian and mammalian, are fatigued under constant conditions with maximal break induction shocks, temporary wave-like variations can be produced in the summit line during the later stages of fatigue by any alteration in (*a*) load, (*b*) rate of stimulation, and (*c*) temperature; and also by introducing

short periods of rest or of submaximal stimulation. 2. S. Jean Meiklejohn, M.B., Ch.B., Carnegie Scholar, On the Development of the Plexiform Nerve Mechanism of the Alimentary Canal. Dr. Meiklejohn employs staining methods and his results show that the visceral (Auerbach's) plexus is formed later than, and probably as an outgrowth from, the synaptic system, and not as an independent system, afterwards forming a secondary connexion with the central nervous system. 3. T. G. Brodie, M.D. Lond., F.R.S., and Winifred C. Cullis, the Analysis of Oxygen and Carbonic Acid contained in Small Volumes of Saline Solutions. 4. H. C. Bazett, Wadham College, Oxford, Observations on the Refractory Period of the Sartorius of the Frog. 5. E. W. S. Carmichael, M.B. Edin., F.R.C.S. Edin., and F. H. A. Marshall, D.Sc., on the Occurrence of Compensatory Hypertrophy in the Ovary. The experiments of the authors of the article show that hypertrophy of the one ovary does occur after removal of the opposite one. 6. P. C. Varrier-Jones, B.A., Effect of Strychnine on Muscular Work. 7. Edward Mellanby, B.A., Creatin and Creatinin. 8. J. Theodore Cash, On the Physiological Action of the Seeds of Garcia Nutans Omphalea Megacarpa and Omphalea Triandra from Trinidad. All these seeds possess a purgative action due to the oil which they contain. They all also produce diuresis. This number contains the Proceedings of the Physiological Society on Nov. 23rd, 1907, and on Jan. 25th, 1908.

The Medical Chronicle.—The November and December numbers (1907) are designed as a memorial to the late Professor Julius Dreschfeld. A short memoir of his life and a bibliography of his published works precede the original articles which fill the rest of the two numbers; of these we have only space to record the titles. Professor A. H. Young and Professor Arthur Robinson write on Malformations of the Human Heart, Mr. G. A. Wright on Some Less Familiar Joint Affections, Dr. Robert B. Wild on the Supervention of Epithelioma on Lupus Vulgaris, Dr. W. Milligan on Labyrinthine Suppuration, Dr. Ernest S. Reynolds on Intermittent Limp, Mr. F. H. Westmacott and Professor F. A. Southam on Hyperplasia of the Superior Maxilla, and Dr. Siegmund Moritz on Oral, Laryngeal, and Nasal Symptoms of Myxœdema. Mr. William Thorburn writes on the Symptoms due to Cervical Ribs, Dr. Archibald Donald on Malignant Disease of the Body of the Uterus, and Dr. F. Craven Moore on the Chemical, Physical, and Biological Relations of Cholesterine.

The Edinburgh Medical Journal.—The March number opens with some remarks on Empyema, based on 100 consecutive cases, by Dr. Albert E. Morison. He advises operating under local anæsthesia in adults and deprecates unnecessary removal of rib. Dr. Lewis C. Bruce continues his contribution on Acute Mania which he believes to be a toxæmia invariably due to bacterial infection. A case of Tumour of the Cauda Equina in which recovery followed operative removal of the growth is recorded by Mr. R. C. Elsworth.

The Dublin Journal of Medical Science.—In the February number is published a short paper by Sir William Smyly on the Future Teaching of Practical Midwifery. He points out the reasons for the course recently adopted by the General Medical Council and draws attention to the much greater facilities for the study of practical midwifery existing in Ireland than in England. He suggests the practical examination of a certain number of students, selected by ballot on each occasion, concerning patients suffering from gynæcological troubles as a mode of stimulating the interest of students in this branch of medical science. An abstract of a thesis by Dr. H. B. Leech on Acetonæmia does not add much to our knowledge of this condition; a similar abstract of a thesis on the Treatment of Epilepsy, by Mr. E. T. Jameson, records some unsatisfactory experiences with organic extracts and concludes with the opinion that the bromides must remain the sheet-anchor of treatment. Dr. C. G. Cumston of Boston narrates a case of Pulmonary Embolism and comments on the pathology of this affection.

The Scottish Medical and Surgical Journal.—In the March issue of this magazine is published an interesting lecture by Captain W. F. Harvey, I.M.S., and Captain Anderson G. McKendrick, I.M.S., on Immunity, in which, among other things, there is pointed out the difficulty of explaining the ingestion of bacteria in opsonic investigations on the ground merely of the activity of the leucocytes, sluggish bodies which are yet found to swallow a large number of organisms in a few minutes. The possibility of an attraction of the germs to the cells is suggested. Dr. F. Gardiner continues his account of his experiences with x rays and high-frequency treatment, the diseases treated ranging from warts and dyspepsia to locomotor ataxy and cancer. Dr. T. C. Mackenzie writes on the recognition and early treatment of Incipient Insanity and supports the idea of admitting these cases to the general hospitals.

St. Thomas's Hospital Gazette.—The February issue is chiefly occupied with a very entertaining paper on Dreams, Normal and Morbid, by Dr. G. H. Savage. The author is clearly an exceptionally favoured individual in the matter of his dream-consciousness and he tells many of his experiences in amusing style. Needless to say, he is no believer in prophetic dreams, though he admits the possibility, even the frequency, of dreams which point out where a missing article is situated, these being due to revival of an unconscious impression formed at the moment of its loss.

St. George's Hospital Gazette.—Serious medical matter is represented in the February number of this magazine only by a portion of an unsigned paper on Ancient Medicine, the text of the discourse being the work of Bartholomeus Anglicus "De Proprietatibus Rerum." Many anecdotes are quoted showing the ignorance and credulity of the time, and an account then is given of the ravages of leprosy and of the strange remedies sometimes employed for the relief of these sufferers.

Guy's Hospital Gazette.—In the issue of Feb. 22nd appears the final portion of Dr. H. C. C. Mann's paper on Arterial Blood-pressure in Health and Disease. We here get the conclusions to be derived from the whole number of observations, on which the author is much to be congratulated. Some Notes from a Clinical Lecture, by Mr. F. J. Steward, deal with the surgical aspects of tonsillitis, the opening of tonsillar abscesses and tonsillectomy, and a discussion at the Pupils' Physical Society on Constipation contains interesting matter.

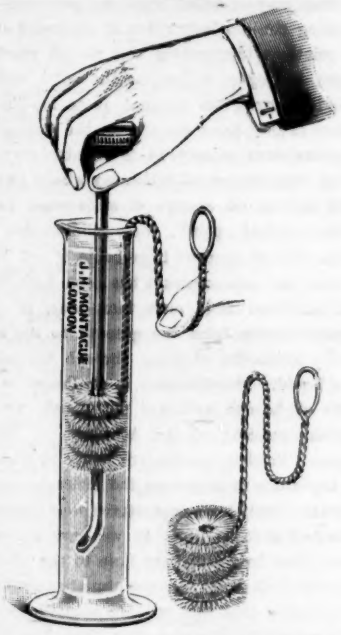
London Hospital Gazette.—The number for February opens with a short but suggestive paper on Private Practice which may be commended to those recently qualified. Clearly there are more things in heaven and earth than are dreamt of by candidates for the final examination. A short note, by Mr. Frank M. Farmer, deals with the extraction of individual teeth, and Mr. Hugh Lett records a case of precocious development in a boy, aged four years, and mentions the theory that connects such a condition with affections of the suprarenal bodies. The clinical supplement is devoted to an abstract of some remarks by Dr. C. H. Miller on aortic disease. In lighter vein is an amusing account of a Chinese dinner and theatrical entertainment given in a letter from a naval surgeon.

FALMOUTH INFIRMARY.—At the annual meeting of the subscribers to the Falmouth Infirmary held on Feb. 24th it was decided that all members of the medical profession practising in Falmouth should after two years' residence be eligible for appointment as members of the honorary medical staff.

New Inventions.

A CYSTOSCOPE BRUSH.

I DESIGNED this brush while house surgeon at St. Peter's Hospital recently to meet a real want and it was successfully employed in all the cystoscopic work there. Hitherto during the progress of endoscopy the cystoscopes were for purposes of efficient sterilisation always kept standing in a glass cylinder filled with acidum carbolicum liquefactum. In cold weather it is impossible to prevent the solidification of the carbolic acid unless heat is employed. The cystoscopes were constantly going out of working order and eventually it was proved to be due to this acid. Not only was the too powerful acid impairing the joint between the lamp and the other portion of the cystoscope, but the heat of the fluid was causing the mirror inside the instrument to "run," and thus become useless for purposes of reflection. With this new device a 1 in 20 solution of the carbolic acid suffices. The brush consists of a double strand of wire arranged in a coil. Entwined in this wire are hair bristles of equal



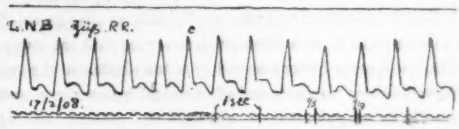
length, the free ends of which radiate towards the interior so as to form a central cylindrical lumen, of about the size of a No. 10 catheter, English gauge. Attached at right angles to the upper part of this coil is a piece of wire which retains the brush in position while in use. The glass cylinder being filled almost to the top with a 1 in 20 solution of carbolic acid, the brush is lowered into position as per diagram. The cystoscope is lowered into the central lumen of the brush, and while one finger steadies this the instrument is sterilised with the other hand by scrubbing it up and down. The brush should not be kept in the carbolic solution perpetually, otherwise the bristles become temporarily soft; it should be hung up when not in use.

It was made for me by Mr. J. H. Montague, of 69, New Bond-street, London, W.

R. J. WILLAN, M.B., B.S. Durh., M.R.C.S. Eng., L.R.C.P. Lond.,
Late house surgeon to St. Peter's Hospital for Stone and Urinary Diseases, London; late house surgeon to Royal Infirmary, Newcastle-upon-Tyne.

TIMEMARKER ATTACHMENT FOR DUDGEON'S SPHYGMOGRAPH.

THE apparatus consists of a clockwork box measuring 1⅛ inches × 1 inch × ⅝ inch, to which is attached a lever with writing style that records the time on the smoked paper in tenths of a second. The clockwork being quite separate from that driving the smoked paper any alteration in the rate of travel of the paper is correctly recorded. Since the paper rarely travels steadily and is very liable to catch momentarily, while the driving mechanism is not proportionately checked, any timemarker driven by the same machinery that drives the paper is untrustworthy. The whole apparatus is simply and quickly attached by withdrawing the two top corner screws of the sphygmograph and then using them to screw the timemarker on to the top of the machine. Thus no alteration at all is needed and it can be fitted immediately to any



"Dudgeon." When ordering, the breadth of the smoked paper should be mentioned. The timemarker is sold in a box which will carry the sphygmograph with the timemarker attached. The great advantage of this apparatus is that it gives a rectangular tracing, each complete movement being one-fifth of a second, but each half movement, as represented by each horizontal line, gives one-tenth of a second.

Messrs. G. Horstmann and Sons, 13, Union-street, Bath, made these timemarkers for me and the price is about 35*s*. I inclose a specimen of a tracing.

L. N. HESKETH BIGGS, M.D. Edin.
Frampton-on-Severn, Glos.

Looking Back.

FROM

THE LANCET, *SATURDAY*, March 13th, 1830.

MEDICAL ARRANGEMENTS FOR THE NEW POLICE.

To the Editor of THE LANCET.

SIR,—Perhaps you are not aware that the Commissioners of Police, (of course with the sanction of Mr. Peel) have determined to send their sick men to the dispensaries and hospitals, for medical assistance, instead of appointing district surgeons, as was at first contemplated.

This information was communicated to me by a surgeon of great respectability, who had an interview with one of the commissioners a short time since.

Can anything so flagrant and unjust be permitted to pass, without the censure which it merits? Can the sacred name of charity be thus perverted? What will the dispensary system next bring upon the profession?

I suppose Mr. Peel will, ere long, for two guineas per annum, supply his family and servants with medical attendance and medicines, as I believe the physicians and surgeons from these establishments attend patients at their own houses.

Without your continued and powerful exertions to repress these growing evils, and a determination on the part of the general practitioners, to unite and assist you in your laudable endeavours, I predict that this industrious and meritorious class of men, will soon be deprived of more of the emoluments which they have hitherto received, and to which they are justly entitled.

I am, Sir, your well-wisher,

London, Feb. 29th, 1830. A SURGICAL REFORMER.

THE LANCET.

LONDON: SATURDAY, MARCH 14, 1908.

Pure Chemistry and Medicine.

IT is hardly possible to foreshadow what bearing recent chemical discoveries may have upon medical progress but it is obvious that as our views in regard to the constitution of matter widen so is it probable that some advantage will be given to medical science. As our knowledge of chemical constitution advances so will the application of that knowledge be less empirical. It is interesting to reflect that the study of medicine in early history served as a foundation to the study of the chemical elements and of chemical interactions, and it is hardly an exaggeration to say that the present important position of chemical science is due in no small measure to the labours and researches of medical men. Even now it is not difficult to find instances of medicine indirectly stimulating the work of chemical investigation and some of the notable advances of the present time are the outcome of work pursued in the laboratories of our medical schools. Apart from this, the study of medicine necessarily involves a certain amount of chemical research. Medicine indicates to the research student useful fields for exploration, points out to him missing links in the chain of knowledge, and asks him for an explanation of the chemical changes concerned in the processes of the human laboratory which are inseparable from function.

The relationship existing between physiological chemistry and medicine is clear enough but it is not so easy to anticipate whether there is any importance likely to be connected with such discoveries as, say, the solidification of helion, the apparent transmutation of metals, and so forth. The discovery of radium was at all events a chemical triumph which has already found medical application. Looking backwards we remember how interesting a discovery was that of PRIESTLEY and SCHEELE when they prepared independently of each other oxygen for the first time—a purely chemical discovery which ultimately, however, gave us an insight into the nature of the respiratory process and of tissue change. DAVY, similarly, when he isolated potassium and sodium in the metallic state probably regarded his discovery as of chemical importance only but we now know how this classic experiment has become of medical importance. There are indications that the elements after all are but products in different shapes, so to speak, of the same original material. Certain elements at any rate evince some properties in common, as is seen in the law of periodicity so ingeniously elaborated by MENDELÉEF. Amongst definite compounds there are instances of substances showing the same composition, containing, that is, the same number and kind of elements, yet which are very different in regard to their chemical and physiological behaviour. At one moment, it may be, the compound appears as a poisonous substance, at another as a quite innocuous one, and yet the composition of both is the same. If elements should after all prove to be a group of sub-entities or electrons, what wonder that indications have been obtained of a given element disappearing only to reappear as another element exhibiting totally different properties. RAMSAY at all events appears to have obtained evidence that under the powerful influence of the radium emanation copper has in part degenerated into lithium, or its components have been so rearranged that the new substance is lithium. The shape which a so-called element takes would therefore seem to depend upon the stability of that element, as to whether it can be made to resolve itself into one lower in the atomic scale under the influence of the powerful agencies known to us.

The triumph of the chemist appears in short to be only a matter of experimental facilities and here we may opportunely refer to an important announcement which was made last week in regard to the solidification of helion Not very many years ago it was thought that the solidification of hydrogen was beyond the capabilities of physical apparatus and of human power. By a species, however, of what may be called fractional processes—that is to say, by taking consecutively gases of gradually diminishing freezing points—a temperature was at last reached which forced even hydrogen to assume the solid state and at length solid hydrogen was obtained as an ice-like mass at a temperature of 257° below the zero of the Centigrade scale. A few degrees lower, namely, 14, is the absolute zero – 273°. The critical temperature of helion lay within one degree of this point and as no change of state could be expected above the critical point, the solidification of this element was looked upon as improbable, if not impossible. Nevertheless, the announcement has been made that helion has been solidified and, more than that, it appears to have passed directly from the gaseous to the solid state without any indication of going through the intermediate state of a liquid. The discovery is attributed to Professor K. OHNES of Leyden and was announced, it is stated, at a recent meeting of the Academy of Sciences of the Hague. Further particulars will be awaited with interest, especially in regard to the methods employed by which the excessively low temperatures were obtained which forced the helion to solidify. As we have indicated, this temperature must have been very close to the absolute zero, an attainment alone which is of the utmost scientific interest. It is not probable that this brilliant achievement will have any direct practical value any more than the similar discovery in regard to hydrogen has had, but the theoretical importance of it is immense. The research may throw light upon the question as to whether the element is metallic or non-metallic. If the former proves to be the case then we should have in future to write helium, if the latter then we should adhere to the termination "on." As so far there has been no convincing evidence of its metallic nature we have hitherto adopted helion as the correct name.

Even remote as these low temperature experiments would appear to be from any medical application, yet we cannot forget their importance in regard to one great question—that of vitality. Professor DEWAR'S brilliant achievements in this field of work have brought out one remarkable fact in biological science, and that is the extraordinary resistance even to excessive cold of a vital combination. Thus, although chemical action tends to cease at

excessively low temperatures the vitality of seeds is unaffected when they are exposed to a temperature *not far off absolute zero*. Lastly, as showing how the discoveries of more or less pure chemistry may after all possess some significance for medicine should be mentioned the application of low temperatures for obtaining cell juices. Moulds, yeast, and bacteria have been reduced to a brittle state, have been crushed, and their respective cell juices have been obtained for examination. In this way the typhoid organism has been crushed, and within itself a toxin has been found. We are thus brought to distinguish between a toxin within the cell and a toxin which is extra-cellular. Truly the question of what practical use is this or that discovery to us, often betrays a scornful impatience unworthy of scientific men.

The Supply of Midwives.

WITH a view of throwing some light on this question Mrs. HEYWOOD JOHNSTONE has collected statistics from all the counties of England and Wales showing the number of trained and *bonâ-fide* midwives available at present, the total number of births per annum in the corresponding county areas, and the deficiency in the number of midwives which will exist in 1910 when the full provisions of the Midwives Act will come into force. To obtain the latter figures she has calculated that 50 per cent. of the total births are attended by midwives and that one midwife is required to every 25 births; while at an estimated expenditure of £20 per midwife for training the total sum required to meet the deficiency in the number, which, exclusive of London, amounts to 4168, would be £83,360. We need not remind our readers that after the beginning of 1910 any uncertified woman is forbidden to attend for a fee her neighbour in her confinement except in an emergency. As at the present time there are large numbers of untrained women who are accustomed to render this service to their neighbours the refusal of the law to allow any such custom to continue after January, 1910, must be attended by a very serious state of things unless prompt measures are taken to increase the present scanty number of certified midwives in most of the counties of England and Wales. The difficulties to be overcome are obvious and serious—viz., the difficulty in persuading the proper class of women to take up this occupation, their inability to provide without assistance the necessary funds for their training, and, most important of all, the fact that even when properly trained and certified in only too many instances they will be quite unable to earn a living wage if they follow the occupation of midwife alone, as the provisions of the Act require. The best method of overcoming these grave difficulties has for some time occupied the minds of all those who are interested in insuring the satisfactory working of this important Act.

Mrs. HEYWOOD JOHNSTONE in her pamphlet adumbrates a scheme which she thinks might serve to solve the serious problem of supplying trained women to take the place of the untrained neighbour of the present day. She realises clearly that it is impossible to supply properly trained midwives for all parts of the country who will be able to earn a living by the exercise of such an occupation alone. It is also beyond the limits of possibility to suppose that sufficient funds will be forthcoming either from the public or from the Government to enable the necessary financial assistance to be given to any large number of these women. She believes, however, if it were found possible to train a half or even a smaller proportion of the untrained women who at the present time attend their neighbours for a small fee, that in this way the gap which must inevitably exist when the Act comes fully into force in 1910 would be met. Such women would be drawn from the same class as the patients themselves, an obvious advantage, and further, their earnings would be in addition to their ordinary income and they would not be dependent entirely on them for their livelihood. It is true that such a scheme could only cover a moiety of the deficiency that would exist but the remainder could then more readily be provided for by the provision of trained midwives who would devote all their time to such work. The expenses of training the village women would have to be met by grants from the local supervising authorities and the means for their training by an increase in the number of provincial centres in which such training can be given, by an increase in the number of midwives and medical men allowed to undertake such training, and, above all, by throwing open the Poor-law infirmaries as training centres.

Under this scheme the difficulty of the maintenance of these women is by no means so great as it must be in the case of trained midwives who look to their work wholly to support them. Such trained women would in most instances in the country be content with the small addition to their income which their training would give them, while such as worked in towns could probably earn a living wage. Some would no doubt require financial help and such help might be provided for by the promoting of maternity clubs to which all women requiring the services of a midwife should be encouraged to subscribe, by the assistance of the boards of guardians in the case of the very poor, or by the assistance of local benevolent societies and nursing associations. The supervising authority as before would be the county councils, given a free hand to deal as they thought best with their own areas. As Mrs. HEYWOOD JOHNSTONE truly points out, if we are to attempt to supply the whole country with highly trained midwives dependent upon their earnings for their livelihood then the task seems incapable of fulfilment, but if we aim only at giving back to the villagers their helpful neighbours with sufficient knowledge to enable the latter to carry on the work with safety to their patients, then we may well hope that the task is not an impossible one to carry to a successful conclusion. It would require the provision of a considerable sum of money and a large increase in the number of local training centres. So long, however, as the Central Midwives Board continues to withhold its "recognition" from Poor-law establishments to the extent that it does at present—for example, only six of the 31 boards of guardians in London and 13 of some 600 provincial boards are recognised for training midwives—it is difficult to see how such an increase is to be provided.

Idiosyncrasies.

WE are assured by the Declaration of Independence that all men are born equal, yet even if it be so in matters political it is certainly not true of their physical natures. We are so accustomed to generalisation in physiology and medicine that we are prone to lose sight of the fact that the individual deviations from that which we are disposed to call the normal are many and great. In disease it is not sufficiently recognised that predisposition is often of equal importance with the exciting cause and sometimes it is of even greater importance. In his recent address in Paris delivered before the Faculty of Medicine Sir DYCE DUCKWORTH emphasised the fact that many of our great predecessors in medicine appreciated more exactly than most of us do at the present time the immense importance of the personal factor in disease. They may have carried the idea to excess but it was based on truth and every practical clinician knows that there must be predisposing factors in the body to lead to the production of a disease. The germ may be present but it cannot grow if the soil is not fitted for it. Against some human bodies germs seem to make assaults in vain, though they may attack with ease the bodies of others. Within the last few years we have learned a little of the conditions underlying this immunity. We know that there exist in the fluids and solids of the body substances which can destroy or neutralise the toxins of the attacking microbes, and the more we investigate the matter the more our astonishment increases at the complexity of the methods by which the body endeavours to shield itself against the assaults of its microbic foes. Even more surprising, however, are the differences existing between two individuals in their means of defence, and the vulnerability of some is especially noteworthy. These differences, however, can be to some extent explained by the possibility that so complex a mode of defence may readily fail owing to an inadequacy in some small part. When, however, we turn from diseases produced by micro-organisms to the morbid states arising from drugs we meet with conditions even more surprising. Though as a rule drugs are fairly uniform in their action, yet exceptional symptoms are by no means rare. The iodides and bromides can be taken by most people in fairly large doses but in a few severe symptoms may develop even after minute quantities. Opium has been known to give rise to convulsions and many other instances could be mentioned where drugs have caused unusual symptoms when given in ordinary doses or where they have caused severe symptoms when administered in minute quantities.

Closely allied to these anomalous effects of drugs are the results sometimes caused by articles of food. There is hardly any food which at some time or other has not produced strange symptoms, and this quite apart from any decomposition in the food itself. The patient is peculiarly susceptible to that particular article of diet and is affected by it whenever he partakes of it, though others may on the same occasions eat it with impunity. From some unknown change in the constitution of the patient's body the should-be harmless food acts as a violent poison and in some cases life itself may be threatened. Eggs are pre-eminently responsible for such toxic manifestations and in THE LANCET of March 7th (p. 716) appeared an account by Dr. A. T. SCHOFIELD of a boy 13 years old who could not eat eggs in any form. If he partook of an egg the saliva would flow, the lips burned, there was nausea, an urticarial rash broke out, the face became puffy, and some dyspnœa arose. On one occasion he suffered after eating a bun which had been glazed with white of egg. The effect was probably not produced through the nervous system, as a raw egg applied to the surface of the skin gave rise to a blister. In cases like this the result is not due to dislike or to "suggestion," for the harmful effect is produced even when the patient is unconscious that any egg is present in the food. Dr. SCHOFIELD suggested that the egg albumin acted in some way on the serum albumin so as to cause transudation, but Dr. R. HINGSTON FOX in a letter in the present issue of THE LANCET offers the theory that eggs contain a powerful decalcifying substance which precipitates the calcium salts in the blood and thus diminishes the coagulability and leads to the transudation of lymph. Cases of egg poisoning are not rare. Rice is another food which is liable to give rise to toxic symptoms and the attacks are generally asthmatic in nature. In one susceptible case some soup had been thickened with ground rice and it gave rise to a severe attack of dyspnœa. In another instance the difficulty of breathing arose after the patient had had some bottled beer to which some grains of rice had been added in order to excite fresh fermentation. A case has been recorded in which honey always produced swelling of the tongue, frothing of the mouth, and blueness of the fingers, and these signs were especially well marked if the honey had been eaten in the comb. It has long been known that if the bees feed on certain flowers the honey which they make may cause various symptoms. It will be remembered that XENOPHON describes in the "Anabasis" headache as being caused by the eating of the honey of a district through which the Ten Thousand passed. It is certain that different honeys differ greatly in their flavouring constituents and "heather" honey, produced by bees which feed on the moors, is readily recognisable. A case has been described in which the eating of figs produced itching of the palate and fauces. Dr. G. F. STILL in a recent lecture at the Hospital for Sick Children related a case of a boy aged about 14 years who could not take porridge as it made his face swell. As Dr. STILL felt a little sceptical the boy was given some porridge in Dr. STILL'S presence and before the boy had finished his meal the face began to swell and within 20 minutes it was so swollen that he could not see out of one eye. Strawberries also are liable to give rise to troublesome symptoms in susceptible subjects.

In all these cases the regular repetition of the symptoms whenever the supposed cause is taken excludes the possibility of the effect being due to some decomposition or impurity. One of the most remarkable facts connected with this curious subject is that the result may be caused by quantities extremely small. As to the truth of these poisonings there can be no doubt and in time we may discover the mode of action. Curiously very little has been done to attempt to remedy these troublesome idiosyncrasies, and they may prove very troublesome; for instance, if a child can never take egg in any form his dietary is distinctly limited, as egg enters a good deal directly

and indirectly into the diet of a child. Dr. SCHOFIELD, whose case we mentioned above, has endeavoured to establish a tolerance for eggs in his patient and he has succeeded. A pill containing the ten-thousandth part of a raw egg with a little calcium lactate to assist in stopping the transudation of serum was given every day. The quantity was gradually increased and by the end of six months the daily amount given was one thirty-third part of an egg. A month later the boy was taking a sixth of an egg each day and yet no symptoms were produced. As a test he was given a pudding which he was told contained egg though none was present but no symptoms were produced. Ultimately he was able to eat an egg a day without harm. This very successful result suggests that many, perhaps most, of these cases of intolerance could be cured and some such treatment deserves a trial, for the peculiarity is often very troublesome to its unfortunate possessor.

Annotations.

"Ne quid nimis."

THE LATE IMPERIAL BACTERIOLOGIST TO THE GOVERNMENT OF INDIA.

THE retirement of Dr. Alfred Lingard from the position which he has held for the last 17 years of Imperial bacteriologist to the Government of India merits more notice than that given to it by the scanty announcement in the *Gazette* when we consider the vast amount of good work which has been executed under his direction. Dr. Lingard went out to India in 1890 and was first stationed at Poona, where he carried out many investigations as regards rinderpest, anthrax, and trypanosomiasis (surra). In the year 1891 he suggested to the Government of India the advisability of building a large laboratory on the hills where all important diseases of animals could be investigated and means could be devised to combat them. After the lapse of two years this proposal was sanctioned and Dr. Lingard proceeded to select a site on the hills near Almora at Muktesar; after some time a suitable one was discovered. This had to be cleared of the vegetation and trees before the building operations could be commenced and the laboratory at Muktesar was finally completed, furnished, and equipped in 1898. In the year 1899 Dr. Lingard went on leave to England and whilst on his leave a great misfortune occurred, for the laboratory was totally destroyed by fire; the valuable equipment was lost, whilst in addition he sustained a grievous blow by the destruction of his large library. For the second time, therefore, in 1900, a laboratory was constructed and the buildings were completed, refurnished, and refitted in 1903. Again in 1906 and 1907 separate and isolated laboratories were erected, together with the necessary sheds and stables. Thus there are now separate buildings for the preparation of tetanus antitoxin and of mallein for glanders, and for the investigation of hæmorrhagic septicæmia and of *charbon symptomatique*. To show how the work has progressed it may be mentioned that in 1890 Dr. Lingard commenced his labours with one native Goanese assistant in Poona. In 1907, when he left, there were two veterinary surgeons acting as assistants, three European laboratory assistants, and two veterinary graduates on the staff. The large output of valuable work was effected during the hot weather at Muktesar, whilst during the cold weather the investigations were transferred to another laboratory situated at Bareilly in the plains. Thus far we have only indicated the part played by Dr. Lingard in the foundation and erection of these laboratories; these on their completion have been the seat of much notable research work and of many important investigations. To name but a few examples, thousands of doses of sera for rinderpest, anthrax, hæmorrhagic septicæmia, and *charbon symptomatique*, and of mallein and tetanus antitoxin have been prepared and distributed; whilst successful researches in the treatment of trypanosomiasis with arsenic followed by mercury, with arsenic and trypanroth, and with atoxyl have been carried out. We may also draw attention to the valuable reports in 1904, one on rinderpest and the other on dourine, the latter being followed in 1906 by a third showing the successful treatment of dourine by arsenic and trypanroth. Lastly, he discovered a successful treatment for surra. Dr. Lingard has accomplished all this work, living often for many months a solitary life on the hill-top on which his laboratory was erected. This laboratory, devised by himself, has been described by the commissioners who were sent out to Africa and the East from the Institute for Marine and Tropical Diseases, Hamburg, as "indubitably one of the finest in India and having nothing to fear with the largest and best-fitted institute in Europe." Dr. Lingard returns to Europe with the satisfactory record of hard work ungrudgingly performed—work which has been of the utmost value in preventing some of the fatal diseases affecting cattle. We trust that his name will appear in a future *Gazette* amongst the honours list.

MODERN DAIRY PRACTICE.

AN interesting paper was read by Mr. Loudon M. Douglas before the Royal Society of Arts on March 4th, in which he reviewed in an [untechnical manner the dangers to be apprehended from the use of an impure milk-supply and the means adopted by well-equipped modern dairies to counteract them. He first showed his audience the darker side of the picture, however, for he admitted the conditions under which some of the byres in the United Kingdom are conducted to be thoroughly repulsive and in many cases innocent of the primary requirements of cleanliness. A reactionary class of dairymen still resents bitterly the attacks made on their profits in the cause of the public interests; but improved technical education is training the opinion of the younger generation of the milk trade in favour of cleanly and scientific methods of production, and this is the spirit which Mr. Douglas, like all advocates of scientific advance in any direction, begs the Government to take advantage of and not to be niggardly in encouraging a useful and indeed vital branch of research. He quoted the example of other countries in securing a proper milk-supply and told of a certain byre in Sweden where the milkers have to dip their boots in an antiseptic solution before entering the milking-shed; this may sound like a *reductio ad absurdum* but the resulting milk when bottled is bought up eagerly at 2*d*. a pint. The Dutch practice is interesting, since it abolishes the middleman in the distribution of milk, the cowkeepers forming coöperative societies to dispose of their own produce, a method which obviously facilitates the proper inspection of the cows. Mr. Douglas acknowledged the difficulties connected with the transport of milk but did not suggest the simple precaution of locking and sealing the churns, which some companies have adopted and which we have advocated strenuously for several years. The paper was an excellent little sermon in hygiene such as may bear good fruit amongst its hearers; it was thoroughly temperate in expression but we should like to know his authority for this statement, "It has also been found that 91 per cent. of the people who die are affected to a more or less degree with tuberculosis, although that may not be the immediate cause of death." Even if 91 per cent. of the subjects of all necropsies were found to

have some latent focus of tuberculosis in them (as has been asserted) it would not follow that the people who die on whom no necropsy is performed are affected in the same ratio. We can appreciate the urgency that exists for the prevention of tuberculosis and for the securing of a good milk-supply to our communities without the addition of such picturesque arguments; we are sure that Mr. Douglas accepted this one on trust with the best of faith, and as it is not the first time that we have heard it, it seems well to raise a protest.

THE HEALTH OF MR. CHAMBERLAIN.

WE gather from a correspondent at Cannes that Mr. Chamberlain's condition is one of steady improvement and progress towards recovery. He soon got over the slight fatigue of his journey from England and is in good general health and spirits, while he is leading less and less an invalid life. He enjoys walking in the garden of his beautifully situated villa, commanding fine views of the neighbouring coast and mountains, sees his friends daily, and takes a keen interest in public affairs.

THE VARIETIES OF TUBERCULIN.

THE number of preparations made from tubercle bacilli and administered under the name of tuberculin, with or without certain descriptive letters, has increased to such an extent that considerable confusion exists in the literature of the subject. It is of the utmost importance that the practitioner should know which form he is giving and the general nature of the particular processes by which it has been obtained. The preparations which are best known in this country are, first, Koch's old tuberculin which is sometimes referred to as tuberculinum Kochi; secondly, Koch's new tuberculin, or tuberculin T.R.; thirdly, Bacillen-emulsion or emulsion of bacilli; fourthly, pulverised tubercle bacilli; and, lastly, the recently introduced Calmette's tuberculin-ophthalmic reagent. The old tuberculin is prepared from four- to six-weeks old glycerine broth cultures of tubercle bacilli boiled for an hour, evaporated down to one-tenth, and then filtered so as to remove the bacilli themselves. The new tuberculin, tuberculin T.R., is prepared by drying living virulent cultures *in vacuo*, grinding them up into a very fine dust, and after extracting certain soluble constituents with saline solution the residue is rubbed up with water to form an emulsion. "Bacillen-emulsion" is prepared from pulverised bacilli, without previous extraction with water, equal parts of glycerine being added, so that one cubic centimetre contains five milligrammes of bacillary substance. Pulverised tubercle bacilli are used for making emulsions for opsonic and other tests. Calmette's reagent is a solution in sterilised water of the precipitate obtained from old tuberculin by alcohol, so as to obtain a solution free from glycerine. Other preparations which have been tried comprise Klebs's tuberculocidin and antiphthisin, Hirschfelder's oxy-tuberculin, Hahn's tuberculoplasmin, Beraneck's tuberculin, Landmann's tuberculol, Maragliano's water extract, and Denys's tuberculin B.F. (bouillon filtré), while Spengler writes favourably of a filtered bouillon from bovine bacilli described as P.T.O. (Perlsucht-tuberculin-original). We have received a copy of a small pamphlet published by Messrs. Meister, Lucius, and Brüning, of Hoechst o.M. and London, entitled "New Tubercle Bacilli Preparations," in which some valuable information is given in regard to the nature and use of many of the more important preparations, including some of comparatively recent introduction. Among these may be mentioned T.O.A. (tuberculin-original-alt), which appears to correspond to Denys's bouillon filtré; P.T.O., a similar preparation from bovine bacilli to which reference has already been made; vacuum tuberculin and bovine vacuum tuberculin, which differ from the old tuberculin in the avoidance of high temperatures in their preparation. All of these substances are prepared by filtration and are thus free from bacilli. A form of tuberculin adapted for the Calmette ophthalmo-reaction is also described under the name of "Tuberculosis-diagnostic Hoechst." This is 0·1 per cent. solution of a glycerine-free desiccated tuberculin and is thus only one-tenth of the strength of that originally employed by Calmette. Tuberculin T.R., Bacillen-emulsion, new bovine tuberculin (tuberculin P.T.R.), and bovine tubercle bacilli emulsion are also referred to, while the preparations of dilutions and the dosage and methods of administration are described. It may here be said that the doses recommended are in most cases larger than are usually recommended in this country, especially since the work of Wright and Bulloch upon the administration of tuberculin controlled by determination of the opsonic index. The pamphlet is likely to be useful in indicating the nature of some of the forms of tuberculin at present on the market, though in this respect it would be improved by further details in regard to the preparation of some of them, and by an indication that smaller doses, calculated to produce an effect upon the protective mechanisms of the body without producing disturbance of the body temperature, are recommended by some authorities. It cannot be too strongly urged that in using tuberculin of any form, either as a diagnostic or as a therapeutic measure, the practitioner should be quite clear in his mind as to the exact action of the preparation which he decides to employ and as to the indications for its administration. Tuberculin is in many forms very potent and is obviously not to be administered indiscriminately to cases of tuberculous disease, at any rate until our knowledge of its effects is much greater than at present.

THE FUMES OF THE MATCH.

THE evolution of the lucifer match is interesting. The present match is scarcely yet 100 years old, for in 1820 the tinder-box was the exclusive means of initiating a light, a comparatively modern survival of the archaic flint and steel. To this day the tinder-box may be found in some houses but it is kept more as a relic than as a practical appliance. Whatever may be said of the inconveniences or offensiveness of the old tinder-boxes, the modern match can hardly claim to be above criticism in regard to hygienic considerations, although its extreme convenience must be admitted. Indeed, the lucifer match has become an absolute *sine quâ non* of existence. It is a pity, however, that, like the modern explosives used in firearms, it cannot be made smokeless, or better still to give off products of combustion which hygienically speaking may be disregarded. Everyone knows how pungent and offensive are the fumes of the modern match and when the composition of modern matches in general is considered this is not surprising. Amongst the ingredients used, either on the match itself or on the rubber on the box, are phosphorus, sulphur, sulphide of antimony, red lead, sulphide of mercury, and lead chromate. The ignition and combustion of the match therefore result, according to the combustible materials entering into its composition, in the copious evolution of sulphurous and phosphoric acids or fumes containing lead, antimony, or mercury, all of which are decidedly poisonous. The amounts in each individual match-head may be small but there are occasions when the number of matches so used is great or when the space in which they are ignited is limited. It would not be surprising to find, for example, that in the atmosphere of the smoking-room or of the smoking concert hall or of the railway carriage the presence of

these poisonous products could be distinctly detected, and if that is the case it is obvious that they may find their way into the human organism. The worst offender appears to be the match the tip of which contains phosphorus, because the whole of the phosphorus in that case is burnt, whereas in the safety match, which is generally a wooden one, there is little or no phosphorus burnt, the phosphorus, the igniting agent, being upon the rubber of the box. But the match head without phosphorus may contain lead, antimony, barium, or cyanides. It is clear from all this that the modern match, in spite of its great advance on the tinder-box, is capable of considerable improvement, especially having regard to the fact that its combustion gives rise to the formation and distribution of poisonous fumes and gases.

FEBRUARY AT HOME AND ABROAD.

—	Highest temperature.	Lowest temperature.	Mean maximum temperature.	Mean minimum temperature.	Mean temperature for month.	Mean daily range of temperature.	Number of days with rain.*	Total fall for month.
	°	°	°	°	°	°		ins.
Scilly	53	40	51	45	47·8	6	6	1·42
Jersey	52	26	49	40	44·4	9	9	2·25
Plymouth	54	33	49	41	45·1	8	8	2·20
Torquay	55	30	50	40	44·8	10	6	1·79
Weymouth	55	29	48	38	43·2	10	8	1·45
Bournemouth ...	54	28	49	39	43·3	10	9	1·21
Sandown, Isle of Wight	56	31	49	38	43·6	11	6	1·39
Brighton	55	29	46	37	41·5	9	5	1·30
Bath	55	26	48	36	42·3	12	8	1·35
Harrogate	50	29	45	35	40·1	10	12	1·83
Manchester ...	52	30	46	38	42·2	8	14	2·65
Nottingham ...	53	21	48	35	41·8	13	7	1·49
London	54	30	48	37	42·3	11	12	1·37
Paris	52	25	47	34	40·4	13	16	1·87
Berlin	50	23	41	32	36·6	9	15	2·18
Brussels	51	25	43	33	38·3	10	15	2·11
Nice	63	28	54	37	45·7	17	No rain.	
Genoa	62	36	58	44	51·2	14	1	0·10
Florence	59	25	51	36	43·6	15	7	2·26
Rome	61	31	54	39	46·6	15	7	1·27
Naples	59	36	53	43	47·8	10	11	2·33
Palermo	68	35	59	42	50·6	17	9	1·18
Malta	63	42	59	50	54·5	9	7	1·62
Algiers	68	34	60	46	53·2	14	15	2·74
Biarritz	59	34	52	42	47·3	10	20	4·30
Lisbon	68	39	59	46	52·6	13	No rain.	

* A day with at least 0·04 inch.

The most striking feature shown by the above table is the extreme dryness of the month at Nice, Lisbon, and Genoa. At Nice the absolute lack of rain is all the more remarkable because of the fact that January was also rainless. At none of the stations either at home or abroad was the period a wet one except at Biarritz, where after about a week of very fine bright weather rain was very frequent and sometimes heavy. With regard to temperature the most salient feature is certainly the extraordinary small diurnal range of only 6° at the Scilly Isles. The exact mean diurnal range was in fact only 5·6°. That ocean-surrounded spot is of course well known to be the most equable spot in the United Kingdom but last month its equability was more marked than usual. The climate over these islands generally was mild for the time of the year and it will be seen that the mean temperature at Torquay and Plymouth compares very favourably with that at Nice, Rome, and Florence, and that the mean at the last-mentioned city was exactly the same as that at Sandown, while at Scilly the mean warmth was higher than that at Biarritz and almost identical with that at Naples. As is nearly always the case, however, the resorts in Southern Europe were warmer during the day time than in this country and sunshine was also much more prevalent. On the Riviera the month was practically one with continuously blue sky and the atmosphere was very dry. Among the inland places Berlin was much the coldest, followed by Brussels, Paris, and Harrogate, while London experienced a very similar temperature to Manchester. There was no higher shade temperature than 68° even at the most southern resorts of the Mediterranean, but after February the warmth of the days increases quickly in that region, and it is probable that before March comes to an end the thermometer will record readings some way above 70°.

OPHTHALMOLOGY AT OXFORD.

THE fourth annual post-graduate course in ophthalmology in connexion with the Faculty of Medicine of the University of Oxford will be held at the Oxford Eye Hospital and at the Radcliffe Infirmary between July 15th and 27th, the last two days of which will be made the occasion of a small congress of ophthalmologists and of the demonstration of many interesting cases and methods. The course itself is to be a very complete one and by no means a "holiday class," for the syllabus shows a solid eight hour a day programme and has been arranged with a view to afford so far as possible the complete practical illustration of a systematic text-book of ophthalmology. No less than 500 cases are promised for demonstration and we doubt if even the clinical material of a large eye hospital could afford so complete a scheme of instruction without a considerable amount of "arranging." Such is being done thoroughly at Oxford and both the University and the Eye Hospital are to be congratulated on working together to secure this result. Medical men attending the congress will be provided with quarters and meals at Keble College for 7*s.* 6*d.* per diem and the syllabus of the course, with all other information, can be obtained from the Margaret Ogilvie Reader in Ophthalmology, Mr. R. W. Doyne, 34, Weymouth-street, London, W., who is senior surgeon to the Oxford Eye Hospital and who will be associated in the conduct of the course with other well-known teachers. The last report of the Oxford Eye Hospital, which is able to draw ample clinical material from the surrounding countryside, is a record of excellent work.

YOUNG SMOKERS.

OUR Manchester correspondent writes: "Meetings were held in Manchester on Feb. 20th of the British Anti-Tobacco and Anti-Narcotic League. It was an occasion of rejoicing to the members who are delighted at the introduction of the Children's Bill. Its drastic clauses prohibiting young people under 16 years of age from buying tobacco or smoking in public places are very pleasing to them. Most of us, even the hardened and unrepentant smokers, whether slaves to the vice or so far masters of themselves as to fill a pipe or put it down with equanimity, will be of the same mind as to the ill-effects of juvenile smoking. The report expressed great satisfaction at the action of the Government. No doubt there are young people in shoals who are given to smoking in public or in private. In days gone by, too far back with some of us, the forbidden pleasure was indulged in with the most modest care as to privacy. There was then no flaunting of cheap cigarettes in the public streets, or even of the piece of cane that was often used as a substitute. It is so far satisfactory to know that in the Manchester district there are,

according to the statement given, 8000 righteous pledged against the use of tobacco, while 'many of them have also pledged themselves against drinking, gambling, and profane language.' Everyone must feel that it would be good both for the physical and moral well-being of the coming race if this number could be increased indefinitely. Bishop Welldon spoke at the afternoon meeting and said that no one in Manchester had fought against smoking by boys more than he had. As head-master at Harrow he had frequently punished boys for smoking, and those boys had since grown up to thank him, and many of them now filled important positions. He spoke of juvenile smoking as the cause of serious physical deterioration, and said that 'it was regrettable to find that Great Britain was the last of all the nations to deal with the subject by legislation.' In view of a statement made by Captain Rigg, the treasurer, at the evening meeting that no less than 100,000,000 cigarettes were sold weekly in this country in penny packets, and that £10,000,000 annually were spent by the young people of the country on what he called 'the odious cigarette,' the society has plenty of work before it. But if all indulgence in tobacco were cut off what prospect but that of starvation would there be for those interested in tobacco from the sowing of the seed to the final transformation of the product into smoke? This is no argument if tobacco has no good points at all, but it is difficult to disregard the testimony of its old and widespread use not only by the luxurious and idle but by some of the most strenuous workers and intrepid travellers in every region of the globe who have obtained from it comfort and solace."

PROTECTED VERMIN.

IN a recent issue of THE LANCET[1] it was stated that among ancient Germans and Scandinavians rats were "reverenced as being the souls of the dead." The belief had died out before the advent of Christianity, for the Lesser Edda, written in semi-pagan times at the beginning of the thirteenth century in Iceland, gives us no hint on the subject. It is therefore to be inferred that the rat was on its way to being regarded as vermin in our modern sense of the word at the time when this classic treatise on old Norse beliefs was compiled. In that mystical natural history book "The Hortus Sanitatis," which was originally the work of Johann von Cuba, an Augsburg physician in the fifteenth century, the rat appears as a creature still endowed with certain magical properties. We read in the Hortus that the urine of a rat in heat is capable of rotting unprotected human flesh and so causing deep wounds incapable of proper cicatrisation. Rat dung, moreover, is cited as a potent cure for baldness. Having been first sacred and then magical and medicinal, the rat may quite possibly have been allowed to increase among scanty and superstitious northern populations in the barbaric period of European history. We hear of rats travelling in hordes, as in the story of the "Pied Piper of Hamelin," and these hordes may originally have been allowed to increase on sufferance. The same thing may have happened in the case of the wolf which in some countries was perhaps not exterminated so long as it did no great harm. Edmund Spenser in a curious passage says of the Elizabethan Irish that they regard the wolf as "a gossip" or compeer, and we know that the wolf was not killed off in Ireland till perhaps the early days of the eighteenth century. The Eastern pariah dog, again, enjoys a certain immunity from persecution quite out of keeping with the bad name given to it in the Bible and in Turkey and India. To primitive minds scavengers, such as dogs and rats, often become sacred through what they eat. It has been suggested that in the days of neolithic man the dog acquired a kind of accursed sanctity through gnawing human corpses where they fell—in the door of the household cave, it may be—and thus swallowing and becoming the tenements of the souls of dead tribesmen of note. And according to the elder Mr. Kipling ("Man and Beast in India") it is still accused of man-eating propensities through haunting the burning-ghats or Hindoo cremation grounds. Substitute rat for dog, and the preservation of rats as "the souls of the dead" may be accounted for. That the superstitious regard for vermin of all kinds leads to their increase and to the spread of disease is, of course, obvious.

[1] THE LANCET, Feb. 15th, 1908, p. 507

THE HAMPSTEAD GENERAL HOSPITAL: ELECTION OF MEDICAL STAFF.

A MEETING of the council of the hospital was held on Thursday afternoon, March 5th, when it was unanimously resolved that the recommendation of the selection committee for the appointments to posts on the in-patient staff of the hospital should be adopted. The selection committee consisted of Sir Richard Douglas Powell, President of the Royal College of Physicians of London; Mr. Henry Morris, President of the Royal College of Surgeons of England; and Mr. Edmund Owen, chairman of council of the British Medical Association, these three gentlemen having consented to assist the hospital at a time of great strain. The letter set out below shows the circumstances of their appointment as a selection committee and gives the names chosen:—

To the Chairman of the Council of the Hampstead General Hospital.

SIR,—In accordance with the request made to us by the Council of the Hampstead Hospital, and communicated to us through the Executive Committee of King Edward's Hospital Fund for London, we have selected from the lists of candidates submitted to us the names of the following physicians and surgeons, and have arranged them in the order in which we desire to recommend them. We are informed that Mr. Edmund Owen has already accepted office as one of the surgeons at the request of the Council.

Physicians.	*Surgeons.*
1. Dr. G. A. Sutherland.	1. Mr. J. Jackson Clarke.
2. Sir John Broadbent.	2. Mr. W. H. Clayton-Greene.

We remain, Sir, yours faithfully,
(Signed) R. DOUGLAS POWELL.
HENRY MORRIS.
London, March 4th, 1908. EDMUND OWEN.

It will, we fear, be some little time before the friction arising from all the circumstances of an unfortunate situation is smoothed away, but we trust to the good sense of all concerned not to perpetuate the trouble wantonly.

DISPLACEMENT OF THE LARYNX IN ANEURYSM OF THE ARCH OF THE AORTA.

A NEW sign observed in some cases of aneurysm of the arch of the aorta is described by Dr. E. Boinet in the *Gazette Médicale de Paris* of Jan. 15th last. It consists in a displacement of the larynx downwards and to the left. It is wanting in cases of chronic aortitis and of tumours and glandular affections in the mediastinum. The depression of the larynx may be very marked; in one of Dr. Boinet's cases, the nature of which was subsequently confirmed by necropsy, the cricoid cartilage was actually situated below the level of the horizontal plane passing through the sternal notch, rendering tracheotomy impossible. As a result of this drawing down of the larynx it may also be much less moveable; in one case it was practically immobile, even on deglutition and on movements of flexion and extension of the neck. But these conditions of depression and lessened mobility may occur in association with affections of the tracheo-bronchial glands and with mediastinal tumour. In aneurysm of the arch of the aorta there is in addition a deviation to the left with slight torsion, which, however, is only produced by an aneurysm of some size. The effect produced is that the left lateral aspect of the larynx is more inclined and is drawn downwards,

while the right lateral aspect tends to become more anterior in position. The explanation offered of these changes depends upon the anatomical relations of the arch of the aorta to the left bronchus and to the trachea. The left bronchus may be pushed downwards and to the left by an aneurysm of the concavity of the arch of the aorta; the left bronchus then draws upon the trachea and this in turn upon the larynx. The deviation and torsion produced in this manner are not very marked, but if the aneurysm continues to grow to the left the bronchus becomes fixed, further traction is made upon the trachea, displacing it more to the left at the same time, the total result on the larynx being that it is drawn downwards, backwards, and to the left.

KING EDWARD'S HOSPITAL FUND FOR LONDON

WE are asked to state that hospitals in the county of London, or within nine miles of Charing Cross, desiring to participate in the grants made by this Fund for the year 1908 must make application before March 25th to the honorary secretaries, 7, Walbrook, E.C. Applications will also be considered from convalescent homes and sanatoriums for consumption which are situated within the above boundaries or which being situated outside take a large proportion of patients from London. It will be seen that the scope of the operations of the Fund has been extended by the enlargement of the radius from seven to nine miles from Charing Cross as well as by the admission to consideration of the claims of sanatoriums for consumption situated in the country in those cases in which it can be shown that a large number of London patients are treated.

THE TREATMENT OF CHLOASMA, FRECKLES, AND OTHER PIGMENTATIONS BY SCARIFICATION AND APPLICATION OF OXYGENATED WATER.

AT a meeting of the Société Médicale des Hôpitaux of Paris on Feb. 14th M. Masotti described a new method of treating chloasma, freckles, and other pigmentations—scarification followed by the application of oxygenated water—which he had found most successful. In scarifying a patient suffering from acne complicated by chloasma he found to his surprise that after a few sittings the chloasma disappeared. This suggested to him the use of scarification in the treatment of pigmentation. He followed the procedure by the application to the wounds of oxygen, which has a decolourising action. Every five days fine scarifications are made very close together on the spot which it is desired to remove. The part is then washed with warm water and a tampon of cotton-wool soaked in oxygenated water is bandaged on. On the following day erythema is produced and in some days slight desquamation. The pigmentation rapidly disappears, which M. Masotti ascribes to a double action. The scarification causes prompt renovation of the epidermis and the oxygen is brought into direct contact with the pigment on which it exercises its strongly decolourising effect. This method has a great advantage over others that have been employed for the same purpose; it does not produce pain or irritation. The 1 per cent. solution of perchloride of mercury in alcohol recommended by Kaposi causes much pain and produces blisters which have to be dressed. M. Masotti has treated with rapid success several patients suffering from chloasma and various other forms of pigmentation. Sometimes the pigmentation recurred after it had been removed. A relapse is not astonishing, for chloasma often depends on the general health of the patient and upon such conditions as anæmia, tuberculosis, uterine troubles, and so on. Hence it is necessary to combine general with local treatment. At the meeting of the society M. Masotti showed a woman in whom chloasma had disappeared under his treatment after three sittings.

THE LOCALISATION OF ARSENIC IN THE BODY.

IN the *Bulletin de la Société de Pharmacie de Bordeaux* M. Barthe communicates the results of his experiments on the localisation of arsenic in the body after the ingestion of poisonous doses. In a case of acute poisoning by arsenious acid, in which death occurred ten hours after ingestion of the poison, the following results were obtained, the figures representing milligrammes of arsenious acid per kilogramme of organ: stomach, 2003; intestines, 750; liver, 213; blood, 142; lungs, 133; kidneys, 27; muscles, 16; and brain, 2. Several other investigators have obtained similar results, showing the absence of arsenic from the nerve centres, though Scolosuboff held the opinion that large proportions of the poison were absorbed by the nerve centres in cases of poisoning by arsenic.

THE INCOMPATIBILITIES OF ORGANIC SALTS OF SILVER.

IN the *Répertoire de Pharmacie* Dr. V. Demandre deals with various substances which are incompatible with argyrol (silver protein). Argyrol is decomposed by light and is attacked by hydrochloric acid. Alkaline chlorides yield with argyrol a precipitate of silver chloride. The hydrochloride of pilocarpine should never be prescribed with argyrol owing to the formation of a brown precipitate; the nitrate of pilocarpine, however, does not decompose argyrol. The addition of adrenalin to argyrol in solution leads to similar changes to those produced in the case of hydrochloric acid. Cocaine hydrochloride in solution is immediately and completely decomposed by argyrol and the same result is obtained with the sulphates of copper and zinc. Argyrol is decomposed by several other compounds, including the hydrochlorides of morphine, heroin, quinine, cinchonine, and sparteine. Both argyrol and protargol may be prescribed with the hydrochlorides of cocaine, tropacocaine, alpha eucaine, holocaine, and neroanine if these substances are dissolved in a 1·5 per cent. aqueous solution of boric acid. These observations respecting two of the important organic compounds of silver will probably be found useful in the case of others of this class.

THE President of the Local Government Board has authorised for the current year the following researches, in addition to those already announced, under the grant voted by Parliament in aid of scientific investigations concerning the causes and processes of disease: 1. Further studies by Dr. F. W. Andrewes and Dr. T. J. Horder as to methods of inhibiting in the animal body the activities of infection by certain cocci. 2. A study of the various forms of pneumonia, especially in children, by Mr. A. G. R. Foulerton. 3. A study of acid-fast bacilli in butter by Dr. D. N. Nabarro. 4. An investigation of the injurious gases evolved during artificial illumination by Dr. J. Wade, D.Sc.

THE annual meeting and dinner of the Irish Medical Schools' and Graduates' Association will be held at the Hotel Great Central on March 17th, St. Patrick's Day; Surgeon-General Sir Charles Cuffe, K.C.B., the President, will preside. The Right Hon. Sir Edward H. Carson, P.C., K.C., and Professor B. C. A. Windle, F.R.S., President of Queen's College, Cork, will be guests of the association.

THE Department of Public Health of Queensland in a bulletin dated Feb. 1st states that on Jan. 23rd a case of plague was reported at Cairns. The patient died on Jan. 29th.

MEETINGS of the International Sleeping Sickness Conference

are now being held at the Foreign Office, the discussion so far having been of a highly technical character.

Dr. J. Cosmo Stuart Rashleigh has been appointed sheriff of the county of Cornwall.

SANITARY REFORM IN INDIA.

III.[1]—LUNATIC ASYLUMS.

WE will next consider the reports of the lunatic asylums in India.

United Provinces of Agra and Oudh.

The triennial report of the lunatic asylums in the United Provinces of Agra and Oudh for the years 1903, 1904, and 1905, is issued by Colonel R. D. Murray, I.M.S., the Inspector-General of Civil Hospitals, United Provinces. There are four asylums for lunatics in the United Provinces—namely, those of Lucknow, Benares, Agra, and Bareilly. With regard to the number of lunatics we find that at the commencement of the year 1903 there were 1136 in the four asylums, the number rising to 1150 on Jan. 1st, 1904, and to 1183 on Jan. 1st, 1905. In respect to the mortality in these asylums it is satisfactory to note that during the triennium under notice this was much less than that of the former three years, the average percentage of which was 7·48, whilst that of the triennium which we are reviewing is seen to have shrunk to 6·29, notwithstanding that there was an increase in 1905 due to the unusual rate of sickness in Benares. The chief diseases under hospital treatment during the three years were at Agra malarial fevers which headed the list by a considerable majority, dysentery, general debility and anæmia, epilepsy and maniacal excitement, with some others of less extent. It is remarkable that not one case of tuberculosis of the lung occurred, a testimony of the ample space available. There were also no cases of suicide. No epidemic prevailed nor was there any plague and there was no overcrowding at any time. At Bareilly the chief causes of sickness were malarial fevers which again headed the list; next came pulmonary tuberculosis, diarrhœa, and dysentery in order of severity amongst the medical affections. It will be seen, therefore, that pulmonary tuberculosis prevailed somewhat largely, there being 38 cases with 16 deaths, as contrasted with the absence of any cases at Agra, one case at Lucknow, and with 15 cases at Benares, and in view of the prevalence of this disease at Bareilly the question of concreting the "kutcha" floors is to be considered. During the prevalence of plague in the city the very wise precaution was taken, in order to prevent its entry into the asylums, of inducing the attendants with their families to leave the city and to live on the asylum grounds, temporary huts being raised for those who could not be accommodated in the existing quarters. The attendants, as well as many of their families, were also inoculated.

At Benares the principal diseases were likewise malaria in large excess, while next came influenza, dysentery, pneumonia, with 15 cases of pulmonary tuberculosis. Lieutenant-Colonel T. H. Sweeny, I.M.S., who was in medical charge, remarks on the exceptional sickness and mortality in the year 1905 in this asylum, the death-rate being the third highest in the last 20 years. Nothing in it or in its arrangements seemed to account for this, either in the opinion of Lieutenant-Colonel Sweeny or of that of the Sanitary Commissioner with the Government of India. Such sickness, moreover, prevailed, not only in the jail and police lines, but also in the city and in the whole district, so that these authorities were compelled to assume that some climatic influence prevailed over the whole locality; and inasmuch as might be expected in the case of lunatics the preliminary symptoms of their maladies were not declared the mortality was naturally accentuated among them. The severe type of the malarial fever present at the beginning of the year, together with the prolonged and unhealthy hot weather, debilitated practically all the inmates. Lastly, in Lucknow we find the chief causes of sickness to be malarial fevers which once more head the list; next come cases of maniacal excitement, anæmia, diarrhœa, and dysentery. There was only one case of pulmonary tuberculosis.

During the year 1905 an important change was recommended. Agra has been for some time considered to be the most unsuitable place for the accommodation of European lunatics on account of the intense heat there for some months of the year. The construction of a central asylum for these lunatics has been under discussion for some years, the most recent proposal being that those of Upper India should be confined in an asylum to be erected either at Chindwara in the Central Provinces, or at Ranchi in Bengal. Meanwhile, it was recognised that something must be done for the European lunatics at Agra, and after carefully considering the case it was determined to make a mutual exchange, the native lunatics being moved from Lucknow to Agra, whilst the Europeans were transferred from Agra to Lucknow. A certain portion of this latter institution was altered in its structural arrangements, so that 14 rooms for males and six rooms for females were prepared. All the rooms are very large and will accommodate two patients, except in the case of those who are violent or dirty in their habits. But unfortunately, as it seems to us, this well-devised proposal was negatived by the Government of India, which has ruled that it is incompatible with the scheme for the administration of lunatic asylums in India which was sanctioned by the Secretary of State in 1900. The question of the disposal of the Lucknow asylum must therefore be again considered.

Another question raised during the year 1905 is that of the treatment of recovered criminal lunatics. This is whether, without any increased cost to the Government, accommodation apart from other lunatics and criminals could be provided for recovered criminal lunatics, and at the same time whether facilities could be provided for gradually giving them a certain amount of probationary freedom so as to test their fitness for eventual release. It is proposed to set aside a portion of the lunatic asylum at Lucknow that has been set free by the transference of native lunatics from that station to Agra and this proposal meets with the approval of the Inspector-General who, however, is doubtful as to the expediency of allowing recovered lunatics to visit the bazaar during their probationary period. He rightly, it seems to us, considers it a matter of doubt whether they could be trusted to return to their barracks at night unless escorted by a guard; and as an alternative he proposes to employ them in interesting and skilled labour within the institution, thus giving them the full benefit of regular work which would be the best means of keeping their minds in stable equilibrium.

With regard to the cures effected, the percentages of recoveries to the daily average strength of these four asylums was 10·92, 10·28, and 13·07 in 1905, 1904, and 1903 respectively. Amongst other points noted in this interesting report are the religion, sex, and places of residence of the lunatics, their previous occupation, and their ages, the largest number of admissions being between those of 20 and 40 years, and the next between 40 and 60 years. The various types of insanity are also noted, from which it appears that the greatest number of patients were admitted under the head of mania. With regard to the causes to which the insanity was attributed, the most frequent was epilepsy and next to that came charas and ganja smoking; opium smoking and eating together accounted for four cases as compared with 177 cases of the two former. Colonel Murray concludes his report with remarks on the expenditure incurred, its amount and the items accounting for it, and he accords well-deserved praise to each superintendent, which praise is endorsed by the Government of the United Provinces.

Central Provinces.

We now turn to the lunatic asylums in the Central Provinces, the report of which for the year 1906 is furnished by Colonel P. A. Weir, I.M.S. In the first place it may be noted that the daily average strength in the two asylums of these Provinces as compared with that of the year 1905 was greater in Nagpore by 7·50 and less in Jubbulpore by 2·30; in both instances the males caused the increase and the decrease, whilst the number discharged was eight in Nagpore and 13 in Jubbulpore, against 22 and 21 respectively in the previous year. The deaths numbered 25 in Nagpore and six in Jubbulpore, as contrasted with 17 and 12 in 1905, and in this is seen a considerable increase in the female mortality. The year was a comparatively unhealthy one for the Nagpore Asylum, whereas the health was generally good in Jubbulpore. As regards the classification of the lunatics, it was again

[1] Nos. I. and II. were published in THE LANCET of Feb. 22nd (p. 582) and 29th (p. 661), 1908, respectively

found necessary to re-classify them; as had previously been the case in 1900, the most frequent type was mania and then came dementia, melancholia, and idiocy in the above order. With respect to the alleged causes of insanity ganja smoking was noted in 32 of the cases; opium smoking did not give a single case but opium eating accounted for two cases. With regard to the expenditure incurred, the average cost per head was Rs.11 less than in the previous year in Nagpore, and Rs.2 more per head than in 1905 in Jubbulpore. The report also shows, amongst other items, the religion, sex, and places of residence of the patients and their previous occupation. The age most affected was that between 20 and 40 years.

Rangoon.

A note on the Rangoon Lunatic Asylum for the year 1906 is furnished by Colonel W. G. King, I.M.S., the Inspector-General of Civil Hospitals of Burma. Here there was an increase of 27 inmates on the last day of the year 1906 as compared with that of 1905, there being 493 in 1906 as against 466 in 1905. The total accommodation provided at the small rate of 50 superficial feet per head suffices only for 429, so that there is considerable overcrowding which was confined to the criminal and female sections of the asylum. In the absence of increased and more suitable accommodation contemplated by the erection of a new asylum it was ultimately found necessary to arrange for the transfer of criminal lunatics to the disused jail at Minbu and the necessary structural arrangements were undertaken in the latter months of the year, so that it was hoped during 1907 to effect a relief to the present undesirable conditions by causing a transfer of at least 80 criminal lunatics. With regard to the overcrowding of female lunatics, a dilapidated building in the existing asylum has been sufficiently restored to permit of its use for 12 inmates. During the year an effort was made to ascertain whether it was possible to board harmless lunatics with private persons, under occasional medical supervision, and the results were favourable to this course. Much attention has been paid to the water-supply, where there were obviously possibilities of gross pollution owing to faulty methods of lifting. A "safety elevator" was purchased and worked efficiently. The trenches were removed farther from the possible drainage zone and two filters of six Berkefeld candles each, worked by pressure under hand-pumps, have been put in use during 11 months of the year. The result has been extremely satisfactory, the rate of admission for "bowel affections" in 1906 being 53·23 per 1000, as contrasted with that of 158·80 per 1000 in 1905.

Much forethought has been exercised over the details of the proposed new asylum, Lieutenant-Colonel G. J. H. Bell, I.M.S., having been deputed to visit India for the purpose of examining the different methods of administration and the structural details of the asylums there, so that any points of value might be available for the internal economy of the building. In the meantime the Department of Public Works is to modify certain wards in the existing asylum so as to arrive at a definite opinion as to various details connected with the comfort, supervision, and safe custody of severe cases of lunacy. With regard to the diet, which is entirely vegetable, Colonel King is trying to secure from China soybeans, the typical bean for the diet, for purposes of cultivation in the asylum. Respecting the death-rate, this was the lowest on record during the last ten years with the exception of that for the year 1900. The daily average of sick was 31·07 of the strength, against 31·69 of the previous year 1905. Malarial fevers only accounted for nine cases. Beri-beri gave one case which was imported, but there was naturally some anxiety as to the spread of this disease owing to the overcrowded state of the asylum. This fortunately did not, however, occur. Tuberculosis caused six deaths in 1906, an increase over 1905, in which year there were only two cases admitted. With reference to the various types of insanity admitted we find that mania headed the list, followed by melancholia, and then dementia.

Lastly, respecting the expenditure, this increased per head of average strength per annum from Rs.149 7a. 5p. in 1905 to Rs.158 8a. 3p. in 1906, whilst the total expenditure in 1906 was Rs.75,293, against Rs.67,855 in 1905. This increase was due to the fact that the full staff sanctioned by the Government of Burma in 1905 was entertained. It is, however, gratifying to note that there was a material saving of Rs.2 14a. 4p. per head under "contingencies," an item under which if supervision be not careful much extravagance may result. Had, in fact, the cost of the establishment been the same as during the preceding year, the total cost per head for 1906 would have been Rs.143 5a. 3p., against Rs.149 7a. 5p. in the preceding year. A net profit in 1906 under manufactures of Rs.14,165, as against Rs.1,21,836 in 1905, together with a decline of injuries from 6·39 per cent. of average strength in 1905 to 2·74 in 1906, certainly imply a better grade of supervision by this increased staff. This so-called "Note" is a model of what a report should be; all the facts are set forth in a concise, readable form, such as would be expected from an officer of Colonel King's well-deserved reputation.

BRITISH MEDICAL BENEVOLENT FUND.

AT the February meeting eight applications were received and grants amounting to £94 were voted in relief. The following is an abstract of the cases:—

Daughter, aged 53 years, of late L.F.P.S. Glasg. Only income £10 a year from a charity and is unable to make any effort at self-support owing to ill-health. Relieved once, £12. Voted £12 in 12 instalments.

Widow, aged 65 years, of M.D. Aberd. No income. Earns a little by sewing. Children unable to help. Relieved seven times, £90. Voted £12 in 12 instalments.

Daughter, aged 55 years, of late L.S.A. No income. Lets rooms, but finds difficulty in getting lodgers and has been obliged to sell most of her furniture. Voted £10 in ten instalments.

Widow, aged 46 years, of M.B. Durh., M.R.C.S. Eng. No income; endeavours to support herself by letting lodgings. Two children, aged 16 and 14 years. Voted £12 in 12 instalments.

Widow, aged 59 years, of L.R.C.P., L.R.C.S. Irel. Was provided for at husband's death, but lost everything through the failure of a bank a little more than a year ago. Slight help from a sister who earns a living as companion. Relieved once, £12. Voted £12 in 12 instalments.

Daughter, aged 62 years, of late M.R.C.S., L.S.A. Maintained herself for many years but is now deaf and in indifferent health and unable to get work. No income; a friend pays the rent of a room. Relieved nine times, £108. Voted £12 in 12 instalments.

Widow, aged 44 years, of M.D. R.U.I. Quite unprovided for at husband's sudden death some years ago and now acts as housekeeper, receiving a home for herself and only child in exchange for her services. Relieved nine times, £107. Voted £12 in 12 instalments.

Daughter, aged 65 years, of late M.D. Edin. Supported herself until nearly 60 years old, but for the last few years has had to live with an aged mother, an annuitant of this fund. Applicant has recently been operated upon for new growth. Relieved four times, £24. Voted £12 in 12 instalments.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY AND THE MIDWIVES QUESTION.

THE following is the report of the Midwives Committee of this society, which has received the unanimous approval of the council of the society:—

This committee was appointed for the purpose of considering the working of the Midwives Act, and reporting thereon, especially in reference to the remuneration of medical practitioners called in by midwives.

The committee accordingly directed that a circular letter should be addressed to members of the society, and other medical practitioners, and also published in the medical press, asking for (1) information as to the number of confinements to which each medical practitioner had been summoned by midwives under the regulations of the Midwives' Board; (2) what payment they had received in each case, and from whom; (3) and what was the nature of each case to which they were summoned.

Several hundred replies were received, and the following information has been derived from them:—

A large number of practitioners replied saying that they had never been summoned by midwives, several saying that there were no midwives in their districts.

In considerably more than half the cases the medical practitioners summoned by midwives received no payment whatever, and the average payment, calculated from a large number of cases, was not over 9s. A noteworthy point is that while some practitioners seem to be uniformly unpaid a few seem to be almost uniformly paid. Probably the class of people in the districts concerned accounts largely for this; but, in one or two instances, the explanation given by the medical practitioner was that he refused to go unless paid.

Of the fees received all but a few were received from the patients or their relatives, and it seems to be quite exceptional for payment to be made by the midwife. A few fees were paid by boards of guardians, nursing associations, provident dispensaries, &c.

The cases to which the medical practitioners were summoned were in the great majority serious ones. Operative assistance was required in many cases. The largest number of the less serious cases were described as delayed or difficult labour. In about 3 per cent. of the cases the death of the child appears to have been the cause of the summoning of the doctor, and puerperal fever was the cause in about 2 per cent. of the cases.

Grave dissatisfaction was expressed by many of the writers at the present state of affairs, and it is evident from the tone of many of the letters that unless proper provision is made for the payment of doctors

summoned by midwives the latter will frequently be unable to obtain medical assistance. It is apparently the more galling to medical practitioners to be called on to assist midwives in difficult emergencies without payment, because they often regard the midwives as competing with them for midwifery practice, and doing so with the advantage of charging lower fees, and of being able to advertise for patients with impunity.

This committee is of opinion that the Poor-law guardians, or other competent authority, should arrange for the payment of medical practitioners summoned by midwives to assist them in emergencies, and the committee considers that the scale of payment should, in any case, not be lower than the existing Poor-law scale for attendance on midwifery cases. While present conditions continue the committee recommends medical men to require payment to be made in advance or guaranteed by some responsible person.

Signed on behalf of the committee,

31st January, 1908. G. A. HERON, Chairman.

The London and Counties Medical Protection Society has done good work in thus prominently bringing before the profession the difficult and disagreeable position of the medical practitioner under the Midwives Act.

THE CITY OF GLASGOW FEVER HOSPITAL AT RUCHILL.

OUR Glasgow correspondent in his letter published in THE LANCET of Feb. 8th gave an outline of the administrative and other difficulties which had arisen in the City of Glasgow Fever Hospital at Ruchill. His account indicated the existence of a deplorable state of affairs, and the Scottish Local Government Board had already ordered an inquiry. The commissioners appointed for this purpose were Mr. Donald Crawford, K.C., sheriff of Aberdeen, Kincardine, and Banff; Professor H. Harvey Littlejohn, of the University of Edinburgh; and Mr. A. Murray, chief clerk to the Local Government Board—men whose acknowledged ability could not fail to give great weight to their collective opinions. The commissioners describe their proceedings as "a public inquiry into the complaints of overcrowding and understaffing of the Ruchill Fever Hospital and on its administration and management." The inquiry was held in Glasgow on Feb. 3rd and the four following days and the commissioners' report has been issued with commendable promptitude in the form of an eight-page pamphlet.[1] We have no hesitation in saying that the report deserves the careful attention of the medical men in charge of large isolation hospitals because it illustrates only too well how certain evils have been allowed to seethe and simmer unchecked till at last they suddenly frothed up and boiled over. The commissioners arranged their observations under the four heads of overcrowding, under-staffing, friction within the hospital, and responsibility for overcrowding. There was no doubt about the overcrowding, for the hospital was constructed to accommodate 440 patients, but in December, 1907, on some days there were in the wards more than 800 patients, the majority of whom seem to have suffered from measles, although the distribution of the several diseases under treatment is not expressly stated. Of course, the remedy for this was to reduce the admissions and in seeking the culprit the commissioners solve the difficulty by blaming both the medical superintendent and the medical officer of health. In the questions of understaffing and friction within the hospital the matron seems to play the leading part. On the subject of the authority possessed by her the commissioners say "the staffing of the hospital is the duty of the matron." It does not appear that the medical superintendent complained to her of the insufficient number of nurses but the resident medical officers did so. On Sept. 24th, while the medical superintendent was absent on a holiday, one of them spoke to her on the subject. A portion of this interview and the incidents which grew out of it are described in the report as follows:—

> He says that she replied that that was a matter with which the doctors had nothing to do, that she did not intend to get any more nurses, and that she knew she had the support of the committee in this matter. The matron's account is that Dr. Mackenzie indicated to her that if she did not come to some arrangement with the resident medical officers in regard to the staffing of the wards they were going to make a formal complaint to the hospitals committee.
>
> In seeking to raise the general question of under-staffing with the matron in the absence of the physician superintendent, we think that Dr. Mackenzie and his colleagues, if they were cognisant of it, made a serious mistake. They should have addressed themselves to their own chief. ..... The matron was not unnaturally displeased at this action by the assistant doctors but her resentment led her to make an even more serious mistake. Instead of waiting for Dr. Johnston's return the next day and complaining to him she went into the city and complained to Mr. Anderson, the convener [*Anglice*, chairman] of the hospitals committee. He had never had any communication with the matron before and had not interfered in any way with the internal management. ..... It was arranged that she should speak to the nurses and that Dr. Johnston should speak to his assistants.
>
> Accordingly the matron called the sisters together and addressed them on the 27th September, and she addressed the remaining nurses in similar terms on the 28th. ..... Miss Landles was evidently very angry. ..... The nurses' lunch, a cup of tea and bread-and-butter, between their breakfast at 6.30 and dinner at 12.30, was stopped. They were forbidden on pain of instant dismissal to give information about the nursing arrangements to the doctors. ..... Ultimately the assistant physicians and the matron were not on speaking terms. It was impossible for both to remain in the hospital together, and ..... the hospitals committee directed the physician superintendent to dismiss three of the doctors.
>
> It was officially stated to us that in dismissing the doctors the hospitals committee did not intend to cast any imputation upon their personal character or their professional ability, and this inquiry has shown that there is no room for reflection upon them in those respects, and that their complaint, in conjunction with their colleagues, to the Local Government Board as to overcrowding and under-staffing was well founded.

We congratulate the resident medical officers on the justice of their cause which has now been substantiated, and we shall be glad to hear what amends the corporation of Glasgow proposes to make for their dismissal.

[1] Obtainable from Oliver and Boyd, Edinburgh; or from Wyman and Sons, London.

MEDICINE AND THE LAW.

An Offence under the Lunacy Act, 1890.

Dr. L. S. Forbes Winslow was indicted at the recent Middlesex sessions for that he "did unlawfully aid, abet, counsel, and procure Edith Mary Lascelles to receive for payment at her house, unlicensed under the Lunacy Act, 1890, a certain lunatic, to wit, Ethel May Davis." At the same time Edith Mary Lascelles was indicted for "receiving payment to board, lodge, and detain Ethel May Davis, a lunatic, in a house not duly licensed for the purpose." A question was raised as to whether it was open to the defendants to show that they were not aware that Miss Davis was insane, but the chairman pointed out that it had been decided that ignorance was no defence to the charge, and they both withdrew their pleas of not guilty, pleading guilty to the first count of the indictment. The case, as stated by counsel representing the Public Prosecutor, showed that the male defendant had long been acquainted with the female defendant, that she had before had charge of insane persons, and that the male defendant had had ample opportunity for ascertaining the mental condition of the patient. With regard to the suggested defence of ignorance of Miss Davis's condition it was pointed out that the male defendant had frequently given evidence in courts of law in the capacity of an expert in mental disorders. With regard to the female defendant it was stated that the mother of the lunatic had complained of the dirty state in which she was allowed to be and that on one occasion the female defendant was too drunk to sign a receipt for a payment made to her by the mother. Her reply, when the complaint as to cleanliness was made, had been, "Do you expect her to be kept clean for a guinea a week?" Dr. L. S. Forbes Winslow was fined £50 and Edith Mary Lascelles was fined £10.

What is Vinegar?

An annotation under the above heading in THE LANCET of Feb. 22nd, p. 577, referred to the misdescription and adulteration of vinegar and indicated the definitions and regulations desirable in order to prevent the deception at present frequently practised on the public. Two cases recently heard at the Mansion House police-court illustrate the manner in which those who desire malt vinegar may fail to obtain that for which they ask. In the first, in which an oil- and colour-man named Missildine was the defendant, it was proved that malt vinegar had been asked for and that acetic acid diluted with water had been received, the price asked for it being at the rate of 1*s.* 4*d.* per gallon. The defendant urged in his favour that the wrong vinegar had been supplied through the mistake of his manager who was deaf and who should have known that his employer only kept malt vinegar for sale in bottles, whereas he had sold the diluted acetic acid by measure. A fine of £5 with 18*s.* 6*d.* costs was imposed. The second case resembled the first in that acetic acid and water had been sold as malt vinegar, the proportion of the acid being larger than in the first instance. The fact that two purchases had been made with the same

result precluded the suggestion that there had been a mistake, and the defendants, Messrs. T. Richards and Co., Limited, of Fetter-lane, were fined £8 with 18*s.* 6*d.* costs.

A Case of Cocaine Poisoning.

At the Central Criminal Court on March 5th, before Mr. Justice Bucknill, Isidor Zeifert, a dentist, whose name is not on the Dental Register, was indicted for and charged on the coroner's inquisition with the manslaughter of a patient who had died under the administration of cocaine. The defendant, who gave evidence in his own defence, said that he had studied medicine in Russia and had taken the primary degree of Bachelor of Medicine, but before passing his final examination he became involved in political matters and had to leave his country. He came to England and acted as assistant to medical men and dentists in London. He had been for 13 years in constant practice as a dentist and this was the first time he had ever had an accident. He had administered cocaine to his patients many times, and this was the first occasion any ill consequence had followed. The defendant's counsel, in his address to the jury, denied that there had been any negligence. Mr. Justice Bucknill, in summing up, said that the defendant was charged with the manslaughter of the woman who was his patient. In this connexion, guilt meant that he caused the death of the woman by wicked and culpable negligence in the reckless administration of a drug in such circumstances that he must have known that he was doing something that was dangerous, and yet did it recklessly and brought himself within the pale of the criminal law. If the jury could not find that, or if they had any doubt about it, they must find him not guilty. The learned judge referred to the fact that cocaine was extensively used by dentists, and very often without an examination being made as to the state of the patient's health. He also alluded to the difference of medical opinion as to what would be an excessive dose and to the fact that cocaine was a most uncertain drug, it being impossible to say what its effects would be on any particular person. The jury found the defendant "Not guilty," when Mr. Justice Bucknill, in discharging the defendant, said: The jury have found you "Not guilty," and I agree entirely with that verdict. Let me remind you, so that you may be wiser in the future—take my advice, that with the knowledge that we now have of cocaine, and that you have, it will be extremely unwise of you if you ever administer it without first ascertaining the condition of the patient's heart.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8820 births and 5493 deaths were registered during the week ending March 7th. The mean annual rate of mortality in these towns, which had been equal to 18·6, 18·4, and 17·3 per 1000 in the three preceding weeks, rose again to 17·6 in the week under notice. During the first ten weeks of the current quarter the annual death-rate in these towns averaged 18·3 per 1000; the mean rate in London during the same period did not exceed 17·9. The lowest annual death-rates in the 76 towns last week were 7·9 in Leyton, 8·0 in East Ham, 8·4 in Barrow-in-Furness, and 9·5 in Walthamstow; in the other towns the rates ranged upwards to 24·3 in Rhondda, 26·1 in Swansea and in Hanley, and 28·4 in Stockton-on-Tees. The rate of mortality in London last week did not exceed 17·2 per 1000. The 5493 deaths in the 76 towns last week showed an increase of 119 upon the low number in the previous week, and included 414 which were referred to the principal epidemic diseases, against 385 and 374 in the two preceding weeks; of these, 149 resulted from whooping-cough, 109 from measles, 66 from diphtheria, 48 from diarrhœa, 23 from scarlet fever, and 19 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases in the 76 towns were equal to an annual rate of 1·3 per 1000, the rate from the same diseases in London being 1·2. No death from any of these epidemic diseases was registered last week in Wolverhampton, Blackburn, St. Helens, Coventry, Hornsey, or in seven other smaller towns; the annual death-rates from these diseases ranged upwards, however, in the other towns to 3·1 in Rhondda, 3·7 in Salford, 3·8 in Reading, and 5·9 in Stockton-on-Tees. The fatal cases of whooping-cough in the 76 towns, which had been 170 and 138 in the two preceding weeks, rose again to 149 in the week under notice; the highest death-rates from this disease last week were 1·5 in Handsworth and in Smethwick, 1·6 in Wallsall, 2·0 in Sunderland, and 2·2 in Northampton. The 109 deaths from measles showed a further increase upon the numbers in recent weeks, and caused the highest death-rates, 1·6 in Rhondda, 1·8 in York, 2·3 in Croydon, and 3·9 in Stockton-on-Tees. The deaths referred to diphtheria, which had been 52 and 47 in the two previous weeks, increased to 66 last week, the highest proportional mortality from this disease being equal to rates of 1·2 in York and 1·5 in Salford and in West Bromwich. The 23 fatal cases of scarlet fever were fewer than in any previous week of this year, but included ten in London, two in Liverpool, and two in Oldham. The 48 deaths attributed to diarrhœa showed a further slight increase. Of the 19 deaths referred to "fever," fewer by five than those in the previous week, two each were returned in London, Bradford, Middlesbrough, and in Sunderland. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had steadily declined in the 13 preceding weeks from 5581 to 3674, had further fallen to 3567 on March 7th; 345 new cases were admitted to these hospitals during last week, against 473, 420, and 383 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 451, 427, and 384 in the three previous weeks, further declined to 325 in the week under notice, and were 34 below the corrected average number in the corresponding week of the five years 1903–07. The deaths in London attributed directly to influenza last week were 122, against numbers increasing steadily from 32 to 141 in the five preceding weeks. The causes of 56, or 1·0 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified last week in Manchester, Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, and in 48 other smaller towns 15 uncertified causes of deaths were, however, registered in Liverpool, nine in Birmingham, six in Sheffield, three in Sunderland, and two both in Gateshead and in South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 21·8 and 19·2 per 1000 in the two preceding weeks, was 19·3 in the week ending March 7th, and exceeded by 1·7 the mean rate during the same week in the 76 large English towns. Among the eight Scotch towns the death-rates ranged from 15·9 in Edinburgh and 16·7 in Greenock to 20·7 in Perth and 22·0 in Dundee. The 681 deaths in these eight towns exceeded the number in the previous week by four, and included 96 which were referred to the principal epidemic diseases, against 92 and 99 in the two preceding weeks; of these, 47 resulted from measles, 18 from whooping-cough, 11 from "fever," seven from scarlet fever, seven from diarrhœa, and six from diphtheria, but not one from small-pox. These 96 deaths were equal to an annual rate of 2·7 per 1000, which exceeded by no less than 1·4 the mean rate from the same diseases last week in the 76 English towns. The fatal cases of measles, which had been 35 and 41 in the two preceding weeks, further rose to 47 in the week under notice, and included 31 in Glasgow, five in Edinburgh and in Aberdeen, three in Paisley, and two in Greenock. The 18 deaths from whooping-cough corresponded with the number in the previous week; nine were returned in Glasgow, three in Dundee, three in Leith, and two in Edinburgh. Of the 11 deaths referred to "fever" in the eight towns, showing a further slight decline from the numbers returned in recent weeks, eight were certified as cerebro-spinal meningitis and three as enteric; six occurred in Glasgow and two both in Paisley and in Leith. The seven fatal cases of scarlet fever showed a slight increase, and included three in Glasgow and two both in Edinburgh and in Aberdeen. The seven deaths attributed to diarrhœa showed a considerable decrease. Of the six deaths referred to diphtheria, fewer than in any recent week, three occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these eight towns, which had been 184 and 137 in the two preceding weeks, rose again to 156 in the week under notice, and were six below the number returned in the corresponding week of last year. The causes of 21, or 3·1 per cent., of the deaths in these eight towns last week were

not certified or not stated; in the 76 English towns the proportion of uncertified deaths in the same week did not exceed 1·0 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 25·5 and 21·0 per 1000 in the two preceding weeks, rose again to 24·1 in the week ending March 7th. During the first ten weeks of the current quarter the death-rate in the city averaged 25·5 per 1000, the mean rates during the same period being only 17·9 in London and 18·9 in Edinburgh. The 182 deaths of Dublin residents registered in the week under notice showed an increase of 23 upon the number in the previous week, and included nine which were referred to the principal epidemic diseases, against four and seven in the two preceding weeks; these nine deaths included three from diphtheria, two from whooping-cough, two from diarrhœa, and one each from scarlet fever and "fever," but not one either from measles or small-pox. These nine deaths were equal to an annual rate of 1·2 per 1000, the death-rate last week from these principal epidemic diseases being also equal to 1·2 in London and 1·6 in Edinburgh. The three fatal cases of diphtheria exceeded the number in any previous week of this year. The 182 deaths from all causes in Dublin last week included 33 of infants under one year of age and 53 of persons aged upwards of 60 years. Nine inquest cases and eight deaths from violence were registered, and 68, or 37·3 per cent., of the deaths occurred in public institutions. The causes of 12, or 6·6 per cent., of the deaths in Dublin last week were not certified; in London all but one of the 1580 deaths registered were duly certified, while in Edinburgh the proportion of uncertified deaths was 3·7 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon: J. C. Ferguson to the *Duke of Edinburgh*, on recommissioning. Staff Surgeon: W. H. O. Garde to the *Victory*, additional, to be lent to Haslar Hospital. Surgeons: H. G. T. Major to the *Donegal;* G. Price to the *Vivid*, additional, to be lent to the *Circe*, temporary; T. A. Smyth to the *Research;* A. J. Wernet to the *Canopus;* W. G. Edwards to Plymouth Hospital; A. B. Marsh lent to the *Hebe*, temporary; A. C. Renwick to the *Pembroke*, additional, to be lent to the *Jason*, temporary; H. M. Langdale to the *Spanker*, lent, temporary, appointment to the *Shannon* cancelled; R. R. Horley to the *Duke of Edinburgh*, on recommissioning; and L. C. E. Murphy to the *Vernon*, additional, for the *Furious*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Herbert E. R. James retires on retired pay (dated March 7th, 1908).

VOLUNTEER CORPS.

Royal Garrison Artillery (*Volunteers*): 1st West Riding of Yorkshire: Surgeon-Captain P. J. S. Bird resigns his commission (dated Jan. 28th, 1908). 1st Carnarvonshire: Surgeon-Lieutenant C. W. Owen resigns his commission and is appointed Second Lieutenant (dated Feb. 17th, 1908). 6th Lancashire: Surgeon-Captain W. T. Blackledge resigns his commission and is appointed Captain (dated Feb. 18th, 1908).

Royal Engineers (*Volunteers*): 1st London: Surgeon-Captain E. C. Roberts resigns his commission (dated Feb. 20th, 1908).

Rifle: 2nd Volunteer Battalion, The Welsh Regiment: Surgeon-Lieutenant-Colonel D. Hepburn is granted the honorary rank of Surgeon-Colonel (dated Feb. 12th, 1908). 24th Middlesex Volunteer Rifle Corps: Surgeon-Captain C. Graham Grant to be Surgeon-Major (dated Jan. 31st, 1908).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

London District (London Companies): Lieutenant-Colonel and Honorary Colonel V. Matthews resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated Feb. 17th, 1908); Major J. Harper to be Lieutenant-Colonel and is appointed to command the companies under the conditions of Paragraph 47 of the Volunteer Regulations (dated Feb. 17th, 1908); Captain J. R. Whait to be Major (dated Feb. 17th, 1908). South Wales Border Bearer Company: Lieutenant John O'Sullivan, from the Manchester Companies, to be Lieutenant (dated Dec. 19th, 1907).

A dinner of past and present members of the London companies will be held at the Holborn Restaurant (Venetian Hall) on Tuesday, March 31st, at 7.30 P.M. This date has been fixed in order that the corps may fittingly mark the close of the twenty-third year of its embodiment, prior to being merged in the Territorial Force. There will be no other guests than past members. Tickets at the price of 3*s.* 6*d.* each (exclusive of wines, &c.) can be obtained from the honorary secretaries, Regl. Quarter-Master-Sergeant Bell, Headquarters, 51, Calthorpe-street, Gray's Inn-road, London, W.C., and Sergeant May, Elmhurst, East Sheen, London, S.W.

THE TERRITORIAL FORCE.

Colonel J. Turton, R.A.M.C. (Vols.), V.D., Senior Medical Officer of the Sussex and Kent Volunteer Infantry Brigade, is to be appointed Principal Medical Officer of the Home Counties Division of the Territorial Force. Surgeon-Colonel G. S. Elliston, V.D., Senior Medical Officer, Suffolk Volunteer Infantry Brigade, has been appointed Principal Medical Officer of the East Anglian Division of the Territorial Force. Surgeon-Colonel J. Raglan Thomas, Senior Medical Officer, Devon Volunteer Infantry Brigade, has been appointed Principal Medical Officer of the Wessex Division of the Territorial Force.

VOLUNTEER SURGEONS.

In the House of Commons on March 5th, Mr. Haldane, in reply to Sir F. Powell, said that medical officers of the Volunteers will have the option of transferring to the Royal Territorial Medical Corps or of remaining regimental officers. Those who transfer will be permitted to retain the uniform of their former unit until worn out. The compound title will be abolished in the case of those who join the Territorial Medical Corps. The appointment of brigade-surgeon in the Territorial Force will lapse, as the Territorial Force will be organised on the same basis as the Regular Army, in which such appointment does not exist.

TUBERCULOSIS IN THE ARMY.

The preliminary report of the War Office committee appointed to consider the care and treatment after discharge from the army of soldiers invalided for tuberculous disease shows that the committee is of opinion that the practicable methods of treatment resolve themselves into the following:—

(*a*) To continue the present method—viz., to discharge at once from the army any man who is diagnosed as suffering from tubercle of the lung, to discharge him from hospital as soon as he is fit to travel, and afterwards to disown all responsibility for him.

(*b*) To provide a special central military sanatorium for tuberculous patients to which all soldiers suffering from the disease should be sent for treatment.

(*c*) To make use of existing civil sanatoria in all parts of the country by reserving in each a number of beds at the expense of army funds, and by transferring soldiers who are suspected of having the disease to the available institution nearest to their own homes.

The committee recommends the last of the three suggestions. We shall take the suggestions into full consideration at an early opportunity.

Surgeon-Major Caspar Robert Laurie, A.M.R., has been promoted from Honorary Associate to Knight of Grace of the Order of the Hospital of St. John of Jerusalem in England.

METROPOLITAN CONVALESCENT INSTITUTION.—The sixty-eighth annual meeting of the governors of this association was held at Sackville-street, W., on March 3rd, Mr. M. O. FitzGerald being in the chair. The annual report stated that the number of patients admitted to the four homes in 1907 was 7515. Reference was made to the arrangements that had been made for the reception of patients requiring treatment after surgical operation in specially equipped wards at the Bexhill and Little Common homes with the object of relieving the great pressure upon the surgical beds at hospitals by receiving patients in an early stage of convalescence. Since the scheme was inaugurated in June, 1906, 311 patients had occupied beds in the surgical wards. Last year 207 cases were treated, the number which would be termed major operation cases being 87. The income of the institution in 1907 was £13,031 and the expenditure £14,228. As a result of a shortage of income in the last two years, due mainly to a falling off in the receipts from legacies, there is now a deficit of £2678 and an earnest appeal is made for this amount. The report was adopted and the proceedings terminated with the usual formal votes of thanks.

Correspondence.

"Audi alteram partem."

THE PARATHYROID GLANDS.

To the Editor of THE LANCET.

SIR,—In an interesting paper on the parathyroid glands recently reviewed by you[1] Dr. David Forsyth expresses the opinion that these bodies have no peculiar function and that their secretion is identical with that of the thyroid gland. These conclusions are based on the careful examination of a large number of thyroids both from man and the lower animals and on general considerations, but not on experiments on living animals, for Dr. Forsyth holds that any attempt to remove the parathyroids at the same time leaving the thyroid proper will be either incomplete, or if complete, accompanied by so much injury to the thyroid as to make any inferences untrustworthy. This view is also taken by Dr. Swale Vincent and Dr. W. A. Jolly[2] who consider that "when parathyroidectomy proves fatal this is probably due to the severe damage simultaneously done to the thyroid"; but Dr. Vincent and Dr. Jolly themselves relate[3] an experiment on a cat in which both thyroid lobes and three parathyroids were removed, leaving only one parathyroid; the cat remained well; 13 days later the remaining parathyroid was removed, the cat died 17 days after this with "typical symptoms." The fact that the cat died after the second operation shows that it was not one of those animals which are not affected by complete excision and that it survived the first operation shows that the disturbance then inflicted on the parathyroid left was not sufficient to destroy it functionally; apparently the cat's life was first saved by leaving the parathyroid and later destroyed by removing it. I have recently had a similar experience; from a dog there was excised on the right side the thyroid lobe leaving only one parathyroid with possibly a minute portion of thyroid proper; the dog remained well. 61 days later the left lobe with its parathyroids was removed. The dog still remained well. 113 days later the remaining parathyroid was excised. In ten days the dog died with the usual acute symptoms.

But the case for the parathyroids does not rest only on microscopic appearances and experiments on animals. The thyroid contains a considerable amount of iodine, while according to Estes and Cecil iodine, if present at all in the parathyroids, only occurs in such minute quantities as to be of no functional significance.[4] Easterbrook found that while thyroid extract was a powerful metabolic stimulant parathyroid extract produced little or no effect in the patients to whom he gave it.[5] Hutchison found that parathyroid feeding had no effect in myxœdema,[6] and others state that it has no effect in Graves's disease, in which thyroid extract and iodides are said to do harm.[7] It must not be inferred that interference with the parathyroids produces no ill effects. The affection known as operative tetany is thought to be due to this; out of 52 extirpations of the thyroid in Billroth's clinic tetany occurred in 12 cases and proved fatal in nine. Dr. W. S. Halsted has recently recorded an interesting case of the disease from a woman with a large and rapidly growing goitre. One lobe was excised. Care was taken not to include any parathyroid and on examination of the part removed none was found. The case did well but the remaining lobe increased in size and two years later was excised; on this occasion, notwithstanding due care, a parathyroid was found in the part removed; the patient did not make as good a recovery as before, but was subject to serious "attacks" with a sense of numbness. During these attacks the patient felt and appeared to be very ill. Dr. Halsted felt so confident of the nature of these attacks that he at once commenced parathyroid feeding: "the effect of parathyroid exhibition was almost instantaneous and most marvellous."[8]

Again, it is possible that the parathyroids may have to do with the good effect in Graves's disease claimed for the milk from thyroidless goats.[9] The excision of the thyroid with its accompanying parathyroids does not produce at the time any obvious effect in sheep and goats; but Horsley[10] has recorded a case in a sheep in which myxœdema came on 20 months after operation, and I have seen two cases in goats in which the operation was followed by myxœdema, temporarily benefited by thyroid feeding,[11] but the symptoms in these cases were very different to the severe nervous symptoms, tremors, paralysis, convulsions, and death, which in a few days follow the complete extirpation in dogs and cats. The explanation of this appears to be now forthcoming. Recently, Dr. MacCallum, Dr. Thomson, and Dr. Murphy[12] have found that there exist in the goat four parathyroids, two in the thyroid, and two in the thymus. Further, they found in two out of several experiments that if the thymic parathyroids were excised together with the thyroid and its parathyroids severe symptoms came on which proved fatal in a few days; the good effects produced by the milk of thyroidless goats is usually attributed to its containing some substance antagonistic to the thyroid, this substance neutralising the excessive secretion of the enlarged thyroid of Graves's disease; it suggests itself that this substance may be derived directly or indirectly from the thymic parathyroids left in the thyroidectomised goats.

It is true of all the experiments cited that the results do not uniformly follow in a series of operations, but the view that the thyroid and parathyroids are functionally identical does not relieve us from this difficulty, for in dogs the complete operation is followed by early death in about 95 per cent. of the cases, the remaining 5 per cent. recovering without ill-effect. One of the problems connected with Graves's disease is whether it is to be regarded as starting in the central nervous system or in the thyroid gland; some of the cases have a history of nervous strain, others of acute infectious disease; in others, again, the disease is preceded by an ordinary goitre without symptoms. These various origins seem to be brought into line by the experiments of Tedeschi.[13] He confirmed Filehne's observation that the symptoms of Graves's disease can be produced by an injury to the restiform bodies and he further found that the symptoms could be prevented by excision of the thyroid before the restiform operation, and that when caused by that operation they could be diminished by a subsequent excision of the thyroid. If a central nervous lesion can cause the peculiar change in the thyroid its secretion could cause the other symptoms; with respect to infective diseases it is easy to see that their toxins might affect the nerve centre. Lastly, in cases of apparent thyroid origin no doubt the centre and the gland would early act and react on one another.

I am, Sir, yours faithfully,

Devonshire-place, W., March 7th, 1908. WALTER EDMUNDS.

[1] THE LANCET, Feb. 29th, 1908.
[2] Journal of Physiology, vol. xxxiv., 1906.
[3] Ibid., vol. xxxii., 1905.
[4] Johns Hopkins Hospital Bulletin, vol. xviii., No. 193, 1907.
[5] THE LANCET, August 25th, 1900, p. 610.
[6] Journal of Physiology, vol. xxiii., 1899.
[7] Surgery, Gynæcology, and Obstetrics, vol. v., 1907.
[8] American Journal of the Medical Sciences, vol. cxxxiv., 1907.
[9] THE LANCET, Feb. 1st, 1908, pp. 292 and 393.
[10] Clinical Society's Transactions, vol. xxi., Supplement, 1888.
[11] THE LANCET, Jan. 25th, 1908, p. 227.
[12] Johns Hopkins Hospital Bulletin, vol. xviii., 1907.
[13] Medical Annual, 1903, p. 334.

THE BLOOD CONDITION IN EGG POISONING.

To the Editor of THE LANCET.

SIR,—Referring to Dr. A. T. Schofield's interesting case of egg poisoning reported in your last issue I should like to inquire whether the coagulation time of the blood was ascertained, and if so whether the time had diminished after tolerance to egg diet had been established. Following the teaching of Wright, I suggest a different theory of the poisoning from that put forward by Dr. Schofield. Eggs, like shell-fish, contain a powerful decalcifying substance, supposed to reside chiefly in the membrane which incloses the albuminous material of the egg. On the outer surface of this membrane the shell is formed, consisting principally of calcium salts, the substance in question having the power of selecting the calcium dissolved in surrounding media and precipitating it in a solid form. When the decalcifying substance is taken into the human stomach it finds its way quickly into the blood, and in individuals who are not tolerant of its action reduces the fibrin-forming power of the blood by precipitating the calcium salts on which that power depends. Hence there is diminished coagulability, and transudation of lymph through the walls of the

capillaries. Such transudation takes place most commonly in the skin, setting up urticaria, and frequently also in the bronchial mucous membrane, producing the symptoms of asthma. It is in this way that an attack of urticaria is caused by the eating of shell-fish. In countries where eggs are a common article of diet tolerance to the action of the decalcifying substance derived from them is almost universally present. The boy whose case is recorded by Dr. Schofield seems never to have acquired this tolerance. Such tolerance as regards shell-fish, a diet much less general in its use, is, as we know, often wanting. To express the theory in the terms of present-day pathology, the decalcifying substance produces in the blood an anti body and then tolerance is established. Dr. Schofield, who is to be congratulated on the result of his treatment, fully succeeded in developing the anti-body in his patient's blood and the liability to poisoning was overcome. Similar treatment would be worth practising in the cases of intolerance to various foods—e.g., mutton—which are occasionally met with. It would be interesting to learn whether the yelk of egg had a poisonous effect or whether this was confined to the white.

I am, Sir, yours faithfully,

Wimpole-street, W., March 7th, 1908. R. HINGSTON FOX.

DELAYED CHLOROFORM POISONING.

To the Editor of THE LANCET.

SIR,—In your issue of Feb. 29th an article appeared from Mr. E. D. Telford reporting three cases of what he describes as the above condition. He informs us in his last paragraph that we are no nearer to a solution of these mysterious cases and that it is essential that all cases should be fully reported. Now, what is the example that he sets us? He is so anxious to tell us how nicely his operation wounds healed that he has quite forgotten to say what method was employed by the anæsthetist. He also tells us nothing about any symptoms that appeared during the anæsthesia, or whether the anæsthetic was administered by an expert, or by someone who did not fully appreciate what he was doing or should do in any circumstances that might arise during the administration. He further omits to mention how the patient was prepared in two of the three cases or how they were treated immediately after the operation. Mr. Telford states that the changes found post mortem are probably due to the anæsthetic, but this I think is very questionable on account of the enormous amount of degeneration sometimes found, especially in the liver, within two days of an administration of a drachm or so of chloroform. Why, for instance, should it not equally be due to the castor oil or the enema?

I have never yet seen a case of this kind, and other anæsthetists seem to be in the same position; while the surgeon seldom knows whether chloroform, or a mixture containing chloroform, has been employed; neither does he know whether oxygen has been administered in conjunction with the anæsthetic. Until the anæsthetists are given an opportunity of going into the cases *before the death of the patient*, we are not likely to arrive at the true cause and preventive treatment of the condition. Most of the patients apparently suffer from rickets, but so do thousands of others who exhibit no such symptoms. The resident medical officer of the same hospital reports two similar cases on the authority of the surgeon. He tells us that chloroform was used in each case, but he likewise omits to mention the method or any symptoms that occurred during the administration. Since these occurrences are so frequent at this one particular hospital it is most important that more of the details of the anæsthesia with less about the operation, should be published.

Another case is reported by Dr. H. C. Wilson, also on the authority of the surgeon, and without obtaining any notes from the anæsthetist. He gives an excellent account of the condition, but apart from stating that one and a half ounces of chloroform were administered during one and a half hours, he tells us absolutely nothing about the very feature which it is attempted to prove is the cause of the whole condition. The remaining case is published by Dr. H. Thorp who certainly tells us a little more than the others, for he says: "The anæsthetic was well taken," in addition to mentioning that two drachms of chloroform were administered during seven minutes.

Such notes as these will never help to prevent the fatalities occurring. Some at least of the patients should have been given the C.E. mixture rather than chloroform; but if the anæsthetist were consulted he would probably inform us that this was in fact done. As a preliminary I should like to know (1) what kind of chloroform was employed; (2) who was the maker; (3) if ether was added, what kind of ether and in what proportion; and (4) how exactly did the patient behave throughout the various stages of the administration, and what degree of anæsthesia was maintained.

I am, Sir, yours faithfully,

London, W., March 4th, 1908. ROWLAND W. COLLUM.

OPEN WINDOWS AND ADENOIDS.

To the Editor of THE LANCET.

SIR,—Adenoid growths in the naso-pharynx of children are likely in the near future to assume a greater degree of importance on account of the medical inspection of schools under the now famous Section 13 of the Act of last year. Already an increasing number of children arrive at the hospitals, their parents having been recommended to get their throats treated. The best way to settle a question such as that raised by Dr. J. Sim Wallace would be by means of school children, vast numbers of whom are accessible. Dr. Wallace's figures are altogether too small to serve as a foundation for any generalisation bearing upon adenoids, which is very far at present from being a simple subject. It would no doubt be desirable, and would certainly be interesting, to make a comparison between the prevalence of adenoids now and 30 years ago. But it seems to me as hopeless a task as it would be to compare, e.g., appendicitis now and 30 years ago. Histories of cases will no doubt help, but they are equally certain to mislead.

As regards deformities of jaws and teeth we are not all agreed on the exact relation between them and adenoids or other form of nasal obstruction. According to my observation such deformities are very rare in the younger children who apply for treatment, but occur with increasing frequency in the later years of childhood when the second dentition is well advanced. These latter are presumably neglected cases. If these deformities stand to adenoids in the relation of effect and cause it follows that radical treatment of adenoids at an earlier stage ought to reduce the frequency of the deformities. Statistics showing a gradual diminution of dental and palatal irregularities with other statistics showing simultaneous increase of radical treatment of adenoids would prove the causal relation in a satisfactory manner. But the ground covered must be very wide to be convincing. Some such work appears to me essential before palatal or dental deformities can be accepted as proof of past adenoids in persons of 30 or 40 years of age.

I cannot believe that open windows have anything to do with adenoids unless it be in the way of preventing them. My experience of the poorer quarters of London is limited to six weeks' midwifery practice as a student in St. Luke's, Clerkenwell, and Islington. The open window was then (six years ago) a phenomenon sufficiently rare to attract attention. Those districts grew, and still grow, large quantities of adenoids. It is stated in books by responsible authors that adenoids are exceedingly rare among savages and other uncivilised persons who have no windows to open and of whom many are exposed to climatic influences quite as unfavourable as we in England. On the other hand, I have never seen such a collection of "typical adenoid faces" as in a crowd of children which I observed (August, 1907) in a south-western coast town justly famed for the mildness and salubrity of its climate. However, an absolutely certain diagnosis of adenoids can only be made by the eye or the finger.

I am, Sir, yours faithfully,

T. JEFFERSON FAULDER.

Welbeck-street, W., March 2nd, 1908.

THE STREAM HILL SANATORIUM SITE.

To the Editor of THE LANCET.

SIR,—My attention has been directed to the anonymous letter in your issue of Feb. 22nd *re* the site which I have given to the County of Cork Joint Hospital Board to erect a sanatorium on. As some of your medical contributors may be wasting time giving "Valetudinarian" unnecessary information, it is as well for me to state at once that no bulrushes grow on the ground, the earth surface is not peat mould, and that the under stratum is not yellow clay. The site has been closely inspected by a medical and an engineering inspector

of the Local Government Board and approved of. Nor was any evidence of medical value given against it at the recent inquiry, the only medical witness against it having not thought it worth his while to visit the site before giving his evidence.

I am, Sir, yours faithfully,

LANGLEY BRASIER-CREAGH.

Stream Hill, Doneraile, Co. Cork, March 3rd, 1908.

THE HALL-EDWARDS FUND.

To the Editor of THE LANCET.

SIR,—Mr. J. Hall-Edwards, who is well known as a pioneer in this country in radiographic work, has as a result of this work developed cancer of the skin of both hands. It has been found necessary to amputate one hand and it is feared that he will lose the other. Mr. Hall-Edwards is in consequence deprived of the means of earning a livelihood, and has to face an uncertain future with the added distress of financial difficulty. It is hoped to raise a fund to put him beyond the reach of want, and for this purpose a local committee was formed at a meeting presided over by Sir Oliver Lodge on March 5th. About £600 have been promised, and it is hoped that the medical profession throughout the country will show its sympathy by contributing to the needs of one who by his pioneer work has helped to make the road easy and safe for those who follow him.

We are, Sir, yours faithfully,

ROBERT M. SIMON, M.D. Cantab.,
J. C. VAUDREY,
} Secretaries.

41, Newhall-street, Birmingham, March 10th, 1908.

THE PRESENT PROSPECTS OF THE MEDICAL PROFESSION.

To the Editor of THE LANCET.

SIR,—In your issue of Feb. 29th you print a letter from Dr. Robert Saundby, intended, no doubt, as a reply to my letter in your issue of Feb. 22nd. With reference to Dr. Saundby's remarks concerning French medico-political history I beg to remark that I addressed myself to persons of the United Kingdom. I do not consider Dr. Saundby's remarks on the above score call for any comment from me. Persons who essay forth to "nip buds" must be careful lest inadvertence leads to thorny experiences.

Care on Dr. Saundby's part would have prevented his misrepresenting me, though his words in any case bear a peculiar importance and gravity which cannot be avoided. I spoke of "the fee agreed upon for the operation," one-third part of which should be apportioned "on the nail" to the general practitioner for his assistance at the operation and the *major* part of the after-attendance. As it takes two persons to make a bargain, I presume that the person paying the fee—the patient or the patient's friends—must needs agree to the fee paid. I positively deny that this is "dichotomy." It is nothing of the sort, it is a computed compound payment to two men for doing two men's work honestly. My proposal will insure the ultimate payment of the general practitioner if the so-called "specialist" is paid, and if not then the "specialist" is in "the same boat." Nowadays, with present methods, the "specialist" is often the only man paid, and the general practitioner has to whistle for his fees. My plan will also tend to keep many out of the hospitals, which apparently the hospital practitioners cannot or do not care to insure. Modern medical and surgical methods, instead of tending to cheapen treatment, as they ought to do, actually are made to render it more expensive and prohibitive to the sufferer of slender purse. The result is that more frequent resort is had to the hospital and so puts an increasing stress on charitable funds, whilst depriving a large section of the medical profession of an honest livelihood, and at the same time preserving to the public a self-respecting independence. Actually the methods of working, as between the profession and the public, is forcing hospital abuse "willy-nilly" on the public and turning the entire charitable system into a universal curse instead of a blessing. The public are and have long been desirous of a scale of charges as between themselves and the profession which will be final and inclusive. Instead of that our methods have been elaborated, till a serious illness, needing operation, is more disastrous financially than an earthquake or a fire. Why have the public not been met in this matter? Simply because it did not suit the pockets of the so-called "specialists" (hospital practitioners) who make and impose the rules which are known as "ethics." Those who suffer most are the public and general practitioner. The reason for this is that in any case the hospital practitioner gets material for "increasing his knowledge and perfecting his skill" which he could not otherwise obtain in such peculiarly favourable circumstances. He also derives a competitive advertisement from the better-class patients of his less fortunate "professional brother" (?), and finally is thereby enabled to set up a high financial standard of reward for his paid work, limit competition (financial and skilful), and keep a close corporation against the general practitioner, whose source of daily bread he helps to distribute gratis in hospital, in order to attain to the exclusive professional position he has usurped. When a "specialist" is wanted, under present ethical rules, he comes in, recommends certain procedures, which he carries out to his own sole financial profit at a high price, and departs. Apparently the "honour" of the profession, to judge from Dr. Saundby's letter, rests solely and simply on the predicament of the non-participating general practitioner. Clearly the "specialist" has no more to gain as he, figuratively speaking, "scoops the pool." Is there no "danger to the public" in these methods? Are there no "serious temptations" likewise? Wherein, if we are to accept Dr. Saundby's estimate, lies the inducement to benefit their patients by "further advice" or "expert skill" if it means financial desolation and loss of practice subsequently? We have heard "specialists" (?) complain that cases of cancer, &c., are not sent early enough for operation and thereby the patients' chances are seriously jeopardised. Must we judge the matter after the estimate of Dr. Saundby's letter? Or is the complaint of the "specialist" merely a dodge to get more cases in the doubtful stage to operate on under a financial arrangement beneficial to himself solely? Your readers will please bear in mind that I am simply speculating on lines laid down in Dr. Saundby's letter, in that the medical profession under "serious temptations" will come to "dishonour." I am simply showing the temptations and refuse to be responsible for the deductions.

My method, and that of some others known to me, is to meet the financial position of the patient and at the same time take into consideration the claims of my fellow practitioner and support and help him in actual practice instead of preaching "ethics" at him as "soft music to soothe his agony," the while the rising tide of "specialist-aided" hospital abuse and exclusive profit tariff comes up and drowns him and his paying patients. I want it generally understood that a general practitioner can, without giving offence or be thought a scoundrel, make to a "specialist" just such a request as I have had made to me and have gladly complied with: "I have a patient, suffering from so and so, who needs an operation, who wants it done at home, who says that he or she is willing to pay 'so much' for the whole affair, but that if your fee and my fees come to more, he or she will have to go into hospital. I know he or she is not at all well off and they already have had expense. Can you help us?" My reply is: "Tell your patient that for the sum mentioned you and I will do what is necessary—operation and after-treatment." Where is the "dichotomy" in such an arrangement? Does it not make for the benefit of the patient, bodily and financially? Is it not a gain to the patient, the general practitioner, and even the so-called "specialist" to do the work so that the after-treatment entails little or no trouble and that recovery will ensue without avoidable complications? It must be remembered that where one existed formerly there are a hundred skilled men available. Now, Sir, for want of a proper understanding between public and profession I can assure you that general practitioners are actually being driven to aid and abet hospital abuse and I cannot say that I blame them; in fact I consider it poetic justice. Let the following remark of a general practitioner made to me explain my meaning: "The hospital-man (doctor) works on hospitals purely to suit his own ends, to get into a position to charge big fees, to come to my and my neighbours' patients at high fees for operations which he takes good care to prevent me from doing by keeping the hospital circle a closed ring against me and those like me. He parcels out to each of his set as many appointments per man as he can, in order to keep us out and limit competition and therefore keep prices high. His high fees come out of my practice, and therefore leaves me less and less to draw upon amongst my patients who do pay for what they get. If my patients feel the expense of an illness, they pay

the hospital-man, and then cut me down to a paltry pittance. I suffer in the long run. To do this the hospital man gives away, each of them at more than one so-called charity, my daily resources, the nimble half-crown, in the out-patient departments, in order to be able to 'do a scoop' on occasion when my richer patients have need of him, and then sneak my patient and his friends afterwards because I am not as practised in skill as he is. When I can, I send my patients who are neither poor nor rich into hospital and compel the hospital-man to give away *his own* living by way of a change and see how he likes it. Do you think I am going to let him come and clean out a poor devil who owes me an account as it is and then get left myself? No, Sir, into hospital he goes; the fellow who sells me to make his position operates on him for nothing, out comes my patient, pays me what he owes me, and gets a little holiday at the seaside into the bargain. Two can play at the same game with advantage."

The above is positively what is steadily taking place, and is actually being brought about by the methods of the hospital practitioners themselves. The tables are being turned with a vengeance, hence the cry which has lately sprung up amongst hospital practitioners that *there is hospital abuse*, a fact they steadily denied whilst it harmed only that "poor fool" the trusting and long-suffering general practitioner amongst the lower middle classes.

Dr. Saundby's letter contained at the end some sentences which I would like to deal with. He says: "As it [my proposal] is dangerous to the public as well as to the profession and offers such serious temptations it should be nipped in the bud. It may be advocated as justice to the general practitioner but it means dishonour to the profession." It seems a thousand pities that Dr. Saundby's paucity of resource should drive him to draw upon unworthiness of his profession. It would have been bad enough if it came from a spiteful general practitioner speaking of "specialists," but coming from a consultant and a former President of the British Medical Association and chairman of its ethical committee, a member (I believe) of the General Medical Council, and an author of a work on "Ethics," its gravity is overwhelming! It is the hardest thing that can be said against any body of men. Dr. Saundby surely forgets that the profession which to-day asks for the trust of the public must of necessity be the same men who, Dr. Saundby asserts, will succumb to "serious temptations" and so court "dishonour." If they prove untrustworthy, then they cannot be trustworthy now if he is to be believed. He cannot have it both ways.

What code of "ethics" outside Bedlam is it that justifies the perpetuation of injustice to the general practitioner for fear of dishonour to the whole profession? How can anything that can be "advocated as justice" to a section of a community bring dishonour to the entire community? *How can justice mean dishonour?* Is it then the fact that the general practitioner's anomalous fiscal position constitutes the only check on the would-be dishonesty of the "specialist" and so averts "danger to the public" and danger and "dishonour to the profession"? Is it meant that both general practitioners and hospital practitioners will go into collusion—in plain English, conspire to rob the public—because the general practitioner gets "justice"? Does Dr. Saundby desire us to accept it as certain that if the medical profession be placed in a position of trust they will succumb to a man and become so easily dishonoured? Are they not for the most part subject now to "serious temptation"? And are they all dishonourable? He speaks of "danger to the public"; surely this must mean something more than mere fees? Does "dishonour" not tend to accrue when, in any community, a section is adversely treated in favour of another section? Does he mean that only the general practitioners are keeping the profession from dishonour and that if their position were improved and put on all fours with that of the hospital practitioners the latter's unchecked methods would mean general "dishonour" because it would have a free rein by reason of the general practitioner's interests being identical? Dr. Saundby need not fear for the physician's odd two or three guineas for a consultation. Only let him and others remember that a fee, in proportion, is due to the general practitioner for "meeting the physician" in consultation.

Does Dr. Saundby think that general practitioners do now, and will in future, call in "physicians" for the sake of an extra fee? Does he expect your readers to believe him? He surely places a very contemptuous value on the services of the general practitioner in his letter. Which of any two men will be the more likely to keep and maintain the honour of the profession—one who modifies his fees to meet his patient's means and helps and supports his brother medical man, or the man who selfishly grasps all he can lay hands on, leaving the general practitioner to eke out a living as best he can whilst using the sources of that general practitioner's daily bread as a lever in hospital work to get into a position to be able to ignore the general practitioner's claims to be fairly dealt by?

It would be far better if we flung such rotten "ethics" to the four winds of heaven and went in for wholesale and universal throat-cutting, pure and simple. One would then know what to expect and not be caught napping. Expect nothing except that which one appropriated unasked and therefore suffer no disappointment and resentment for unfair treatment. What can be said for the "honour" of a profession in which one class lives by preying on the resources of the other class, arrogates to itself the better position, makes the laws to be observed in its own selfish interests, parcels out all the chances in life amongst its units, closes its ranks to entry from the other class and to do so breaks unchallenged every law of God and man—"Live and let live"? Lest it be thought that I exaggerate, I will relate what many of your readers will learn with some astonishment. A few days ago an appointment was made to a dispensary for out-patients only, in London, involving two afternoons' work per week; seeing minor surgical cases, whitlows, cut fingers, rheumatic joints, boils, abscesses, &c. There was attached to this paltry appointment a stipend of 50 guineas per annum (miscalled an honorarium) for doing charity! This appointment would suit, and ought only to be held by, a very youthful and inexperienced "specialist," or a general practitioner whose ambition lay in worthy and honourable lines. There applied, amongst others, for this post and got it, a full surgeon on a large teaching and a non-teaching hospital, in both of which places he "had beds." Now, Sir, is this not subversive of fair play as between seniors and juniors! I was not a candidate for the above post.

I have been saying unpleasant things and ask a little more space for a most pleasing contrast. I inclose you the appointment card sent by a *consultant* to a general practitioner's patient making an appointment, and which was handed to me by the general practitioner himself. We both spent much time saying many good things about that "*cons...tant.*" I wish that I could publish his name. On the back of this card is printed the following:—

> Dr. —— does not undertake the *continued treatment of patients* or visit them in their own homes except in coöperation with their usual medical attendant, and whenever possible a note of previous health should be brought from him.

This notice incidentally makes an excellent definition of a "consultant," and no man who does not conform to the above has any right to demand "consultant fees." Will Dr. Saundby please take note of the above and put it to the credit of a profession that must "deny justice" lest "dishonour" follow in its train.

I am, Sir, yours faithfully,

F. W. FORBES-ROSS, M.D. Edin., F.R.C.S. Eng.

London, March 6th, 1908.

"THE CASE FOR THE GOAT."

To the Editor of THE LANCET.

SIR,—I am greatly obliged to you for having, in your kind review of my little book, "The Case for the Goat," drawn my attention to a clerical slip in the table on p. 11 which I shall correct at the earliest opportunity. It should read as follows:—

—	Goat's milk.	Cow's milk.
Water	83·21	87·56
Butter-fat	7·30	3·63
Casein	4·18	8·81
Milk sugar	4·10	
Ash...	1·21	

In my book the table appears—I cannot tell now whether the omission is due to typist, printer, or author—minus the

bracket, which has, of course, the surprising effect of suggesting that any attempt to make cheese out of cow's milk is foredoomed to failure. Happily, my two other analyses of goat's and cow's milk show that I am not ignorant of the proteid value of cow's milk. (The Stevenson and Murphy figures are, proteid in cow's milk, 3·55, as compared with 4·29 in the case of goat's milk).

The appreciative review in THE LANCET has given me much pleasure. If goat keeping is to make the progress in this country which it has made on the continent, with remarkable benefit to the health of children, it must be largely due to the good word of the medical profession. Doctors, on looking into the "case for the goat," realise at once how unanswerable it is.

Especially in rural districts, where so many labourers' families have much less milk than they ought to have, medical patronage of "the poor man's cow" must have considerable effect on the stamina of children.

May I just refer to the prejudice against goat's milk due to an alleged taste? A medical man lately made this objection to goat's milk in my presence. I found that his experience of goat's milk had been gained in Egypt and Italy. I sent him a bottle of milk from my goats and he and his wife were at once converts to goat's milk, drinking it in tea and coffee or alone. Goat's milk never tastes except when the animal which yields it is ill, has had access to garlic, ivy, or some other strong-flavoured food, or has been milked into a foul vessel.

I am, Sir, yours faithfully,

Feb. 29th, 1908. "HOME COUNTIES."

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Milk-supply of the City.

THE reports of the public analysts and the medical officer of health under the Sale of Food and Drugs Acts for the quarter ended on Dec. 31st, 1907, showed that whilst the milk from shippons in the city was free from tuberculosis, on the other hand 20 per cent. of the milk coming into the city from the country was contaminated with tuberculosis. This was eloquent testimony to the administration of the health committee and to the work of the medical officer of health, and was the best possible testimonial to the health of the cows housed in the city, as pointed out by the chairman of the infant life preservation subcommittee of the health committee. Great credit was due to the Liverpool cow-keepers for the manner in which they had responded to the health committee's requirements. He also advised householders to visit personally those shippons from which they obtain their milk and until the milk-supply from the country was free from disease to insist that milk from Liverpool shippons only was supplied to them, even though more payment were required. The public might be reassured to know that joint action was being taken by several of the great cities in this matter. There was a meeting held in Manchester on Feb. 28th of representatives of Birmingham, Leeds, Manchester, Sheffield, and Liverpool, and resolutions were unanimously agreed to calling the attention of the Local Government Board to the matter with a view to legislation in a Bill which Mr. John Burns was about to bring before the House of Commons. In view of the fact that 20 per cent. of the milk which came into Liverpool from the country was proved to be tuberculous every cow should be licensed. The causes of the country cow being diseased were threefold: first, in consequence of the want of appreciation of their responsibility by landlords in not providing healthy shippons for country cattle; secondly, by a want of cleanliness on the part of farmers; and thirdly, by the rural district councils not putting into force the powers which they possessed in connexion with this matter. The Liverpool city council had led the way in the matter from the first and the chairman was satisfied that the council would not rest until the milk-supply from the country sent into the city was as pure as that supplied by Liverpool cow-keepers.

Liverpool Maternity Hospital.

The annual meeting of the subscribers to the Liverpool Ladies' Charity and Lying-in Hospital, henceforth to be known as the Liverpool Maternity Hospital, was held on March 2nd, at the town hall, under the presidency of the Lord Mayor (Dr. Richard Caton). The report stated that the number of patients in the outdoor department was 1673 as against 1649 in the previous year. The number of patients attended in the hospital was 357, as against 295 during the year 1906. In the school of midwifery 54 pupils were trained during the year 1907; 24 of these pupils were, in addition, trained in the hospital as monthly nurses and received certificates of proficiency. The managing committee cordially coöperated in reducing the infant mortality in the city. The matron and midwives sent prompt notification of every birth attended to the medical officer of health, and by arrangement with the Liverpool Ladies' Sanitary Association it was intended that the name and address of each applicant in a specified area should be sent to that association so that the "mother's visitors" attached to it may visit the women and give them timely instruction on health and domestic matters, and endeavour to influence the home conditions for good. The financial condition of the charity showed a deficiency of £660. The Lord Mayor, in moving the adoption of the report, said that the charity was one of the oldest and most valuable in the city. He believed that the staff attended one-eleventh of the total births in Liverpool and they saved an immense amount of suffering and prevented much mortality. He regretted that the charity was not better supported and wished some way could be seen of increasing the income. In the matter of maternity provision Liverpool, with its one hospital containing only 19 beds, compared badly with such towns as Glasgow, which had 80 beds; Manchester, 140 beds; and Dublin, with only one-half the population of Liverpool, 126 beds. Liverpool was making an effort to reduce its high infant mortality and one such means was that charity. On the motion of Professor Wilberforce, seconded by Dr. Henry Briggs, it was decided to adopt in future the name "The Liverpool Maternity Hospital and Ladies' Charity" in the place of the old name, as more expressive of the work of the institution.

The Liverpool Country Hospital for Chronic Diseases of Children.

The annual meeting of the friends of this charity was held on March 3rd at the town hall, the Lord Mayor presiding. As the priority of the hospital would seem to have been challenged, the committee in its report goes to some pains to prove the position of the institution. The report begins with an excerpt from a speech delivered by Sir Edward Russell at the opening ceremony of the institution on Nov. 4th, 1899, in the small ward at West Kirby where the work has been carried on ever since, awaiting the opening of the new hospital at Heswall. Sir Edward Russell's words were: "The hospital, he believed, would be looked upon as a great experiment to be followed in other parts of the country, and he was convinced that if they kept their principle in view it might be the beginning of a national undertaking and that the country at large would realise the importance of so teaching the rising generation that nothing of which science could make a certainty should be left to chance." The prophecy has been truly realised during the year 1907, for London has now followed in Liverpool's footsteps and a home for children suffering from tuberculous diseases has been established in Hampshire, mainly through the endeavours of the ex Lord Mayor of London (Sir William Treloar), who, however, in his appeals which were sent far and wide throughout the country, claimed that no institution for the care of children suffering from tuberculous diseases existed in this country. It is to justify the claims of the founders of this hospital and of the appeals that have been made from time to time that special prominence is now given to the fact that there has been in existence for some eight years such an institution as the Liverpool Country Hospital for Children, comprehensive in its scope, dealing with every form of chronic ailment, tuberculous or otherwise, requiring prolonged treatment, whether medical or surgical, in the fresh air of the country. The committee had the satisfaction of acknowledging two handsome donations of £5000 each from Mr. Holbrook Gaskell and Mr. Andrew Gibson, besides smaller gifts, including £300 for a memorial cot from Mrs. and Miss Mitchell Molyneux. The number of endowed cots is six; there are besides six annual appropriated cots. The splint fund has proved most valuable. The report of the honorary medical staff showed the satisfactory nature of the work done during the past year, and the time is looked forward to when, with the accommodation which the new hospital will afford, a largely increased number of cases will be benefited and the present state of affairs, whereby so many children are

kept waiting for months before they can be admitted, will be rectified. The balance on the hospital erection fund stands at £37,809 and the cot endowment fund at £4345.

The late Mr. E. R. Bickersteth.

The death occurred on March 7th of Mr. Edward Robert Bickersteth, F.R.C.S. Eng., consulting surgeon to the Liverpool Royal Infirmary, in his eightieth year. Mr. Bickersteth had been in bad health for several months. It is a strange coincidence that Mr. Bickersteth should only have survived his former colleague the late Mr. Reginald Harrison one week.

March 10th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

Appointments at the University.

CONSEQUENT on the resignation of the late Professor C. J. Wright the council of the University has appointed Dr. John B. Hellier as professor of obstetrics. Dr. Hellier has been connected for many years with the school of medicine and with clinical teaching in Leeds. Himself a student of Leeds, he was at one time teacher of materia medica and more recently has been lecturer on gynæcology. His promotion to a professorship will add to the Senate of the University a man of sound judgment, and his position as honorary obstetric physician to the infirmary will enable him to correlate the instruction to the students which comes on the one hand from lectures and on the other from practical work. Dr. E. O. Croft, who was formerly honorary demonstrator of midwifery, has been appointed to succeed Professor Hellier as lecturer on gynæcology. Dr. R. Veitch Clark, who was formerly demonstrator of physiology and who was recently appointed assistant medical officer of health of the city, has been appointed by the council honorary demonstrator of public health under Professor J. Spottiswoode Cameron.

The Workpeople's Hospital Fund.

The twenty-first annual meeting of the supporters of the Leeds Workpeople's Hospital Fund was held on Feb. 26th under the chairmanship of Mr. F. R. Spark who initiated the movement and has been not only the honorary secretary and for many years the chairman of the fund but has been the life and soul of the endeavour throughout. At one time the voluntary subscriptions of the workpeople at the various factories and workshops of Leeds were paid directly to the different charities which it was desired to benefit. It was then agreed that the collectors of the infirmary and of the other institutions should cease to collect such subscriptions within the city boundaries and that a specially organised fund should be started. The movement has from the beginning been attended with every success. It is true that the money collected does not now go, as it did at first, entirely to the charities, and that the committee has deemed it wise and within the scope of the movement to make extensive capital outlay in the provision of convalescent homes, the maintenance of which, of course, involves an annual demand on the amount collected and that these homes are reserved exclusively for the use of subscribers to the fund. Though in this respect the fund cannot be strictly regarded as one devoted entirely to charitable purposes, it is satisfactory to note that the amounts voted to the different institutions have not lessened since this new policy was entered upon but have increased considerably. The main source of income is derived from the voluntary subscription on the part of the workers of a weekly sum of 1*d.* in the case of men and of ½*d.* in the case of women, girls, and boys. In many cases the workpeople have authorised their employers to keep back this amount from their wage, an arrangement which facilitates the collecting of the money, and is being increasingly fallen in with. From this source the amount collected during 1907 was £9781, as against £9137 for 1906. Other sources of income are collections made at public-houses, matinées, football matches, Sunday concerts, carnivals, and various collections, in addition to the annual gala, the success of which depends mainly on that uncertain factor, the weather. With a balance brought forward from last year of £1730, and with the addition of a special donation of £1000 the total receipts for 1907 amounted to £15,983. At the annual meeting the Lord Mayor made a donation of 21 guineas, so that the handsome sum of £16,000 was realised. From this grants were made as follows: Leeds General Infirmary, £5250; Leeds Public Dispensary, £800; Hospitals for Women and Children, £800; Tuberculosis Association, £315; District Nursing Association, £250; Maternity Hospital, £125; Bramley District Nursing Association, £50; and Stanningley District Nursing Association, £50. During the year the Convalescent Home for Men at Horsforth has been enlarged and was reopened by Sir James Kitson (now Lord Airedale) on July 13th. Since the reopening 321 patients have been admitted. The regular time during which patients remain in is two weeks, but 115 of those admitted were on this occasion allowed to stay in three weeks. During the time when the home was closed for repairs 359 men were sent at the expense of the fund to other convalescent homes. The Convalescent Home for Women is at Ilkley, in Wharfedale, and to this 416 patients were admitted during the year. The total expenditure on both homes and on the general fund has been £7683, which includes £4319 of capital expenditure on the rebuilding of the Horsforth Home. The amounts voted to the different charities were the same as last year, and it is hoped that as the capital expenditure next year may be less there may be a proportional increase in the amount available for distribution.

March 10th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The University of St. Andrews and the late Professor J. Bell Pettigrew.

AT the Court of the University of St. Andrews which met last week a motion was unanimously adopted expressing great regret at the death of Dr. James Bell Pettigrew who for 33 years had been Chandos professor of medicine and anatomy in the University. It was also resolved to express to Mrs. Bell Pettigrew the heartiest thanks of the Court for the generous and munificent gift of £6000 which she is bestowing on the University in memory of her husband, and to assure her that the Court will be able through the gift to erect a commodious and well-arranged museum which it will associate with the name of Professor Bell Pettigrew. It was explained that by an ordinance of the University Court passed in 1900 it had been provided that the Chandos professorship of medicine, which the University Commissioners had enacted should come to an end at the termination of Professor Bell Pettigrew's tenure of the chair, should be continued after his death as a professorship of physiology. The business and finance committee will draw up a statement of the terms and conditions of appointment of a professor to the new chair.

Aberdeen Town Council and Street Accidents.

The watching committee of the town council of Aberdeen recommends that in cases of accident or of sudden illness happening in the street the police constable on whose beat it occurs should be authorised to send for the nearest available medical practitioner and that the fee of 2*s.* 6*d.* for day calls and 5*s.* for calls between the hours of 10 P.M. and 8 A.M. should be paid to such practitioner by the council.

Deer District Public Health Committee.

At a meeting of the above held in Maud on Saturday, Feb. 29th, circulars from the Local Government Board with regard to the Vaccination (Scotland) Act, 1907, the Notification of Births Acts, 1907, and the Public Health (Scotland) Amendment Act, 1901, were considered. It was agreed not to adopt the Vaccination Act or the Notification of Births Acts. The circular with regard to the Public Health Act was left to the sanitary authorities. The question of what constituted a dairy was under discussion, as, for instance, ought crofters to be registered as such who sold small quantities of milk to people with carts who went round and collected such small supplies.

March 10th.

BRISTOL MEDICAL MISSION.—The annual meeting of the subscribers to the Bristol Medical Mission was held on Feb. 25th. The medical report stated that 9050 patients were treated during 1907, including 1934 who were visited at their homes. The financial statement showed a small favourable balance.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Ulster Hospital for Children and Women, Belfast.

AT the annual meeting of the supporters of this institution held on March 3rd it was reported that 247 children and 92 women had been admitted as in-patients during 1907, while in the extern department 2147 children (including 417 eye cases) and 698 women had attended. 226 maternity cases were delivered, of whom nine were admitted to hospital. Financially, the total income for the year was £1129, while the expenditure for the same time was £1108, leaving a balance of £105. The fund for rebuilding the hospital now amounts nearly to £5000 and an additional equal amount would enable the board of management to start operations. Dr. W. St. Clair Symmers, professor of pathology, in moving a proposition, referred to one great drawback to medical progress in Belfast—the difficulties of obtaining post-mortem examinations, which were rare except when ordered by the coroner, owing to the fact that public opinion was dead against them. He spoke of the educating value of such examinations on the medical profession and hoped in time that there would be a change of opinion on the part of the Belfast public who attended hospitals.

Lady Superintendent of Nurses at the Belfast Workhouse.

The Local Government Board has written to the Belfast board of guardians refusing to sanction the person nominated by the guardians to the above post and requesting them to proceed to make another appointment. At their weekly meeting on March 3rd a motion was carried by 21 votes to 16 to the effect that the Local Government Board should be informed that the guardians had made their appointment to the best of their ability and that they refused to change their views on the matter. All the lady guardians voted against the proposition.

The Belfast Society for Providing Nurses for the Sick Poor.

At the annual meeting of this association held on March 6th it was reported that during the past year the number of cases sent forward for attendance was 168 in excess of the previous year, and as usual consumption and other forms of tuberculous disease head the list, there being a total of 215 of such forms of disease. There were also 100 cases of ulcer, 64 of cancer (only two are noted as recovered), 55 of pneumonia, and in all there were 1291 cases. Financially the income from all sources was £1341, while the expenditure was £1180, leaving a balance of £161 on the right side. It was decided to incorporate the society under the Companies Act.

Treatment of Cases of Fever in Belfast.

The medical practitioners of Belfast have received a note from the superintendent medical officer of health dealing with the above matter. Section 156 of the Public Health (Ireland) Act, 1878, provides that "any expenses incurred by a sanitary authority in maintaining in a hospital or in a temporary place for the reception of the sick a patient who is not a pauper, shall be deemed to be a debt from such patient to the sanitary authority," &c. The expenses referred to, the circular goes on to say, mean the costs of conveying, removing, feeding, providing medicines, disinfecting, and all other things required for patients individually, exclusive of structural or establishment expenses. The public health committee, having ascertained that the lowest sum which would cover these "expenses" would be 12*s.* 6*d.* per week, has given instructions for accounts to be made out and furnished on that basis, but, on the other hand, it will reduce or altogether remit (if necessary) the charges in any case where it is satisfied that the circumstances are such as to justify the reduction or remission of the debt.

The Extensions at Purdysburn Asylum.

A deputation has been appointed, consisting of members of the Belfast asylum committee, to wait on the finance committee of the corporation to obtain the money necessary for carrying out the complete scheme at Purdysburn of the buildings required for the whole asylum on the villa system, the estimated cost being £85,000. The work, it is estimated, will occupy four years and the expenditure will be at the rate of £20,000 per annum for each of these four years. The total cost of the whole scheme of concentration will be £125,000, according to a statement of the chairman of the asylum committee.

Triennial Visitation of Queen's College, Cork.

The triennial visitation of Queen's College, Cork, was held last week by the visitors—viz., Mr. Justice Kenny, President; Sir Rowland Blennerhassett; Dr. J. M. Redmond, President of the Royal College of Physicians of Ireland; Mr. John Lentaigne, Vice-President of the Royal College of Surgeons in Ireland; and Sir John William Moore, M.D. A large number of students were present. Mr. Justice Kenny having opened the proceedings, Professor B. C. A. Windle, President of the College, enumerated various improvements which have been made in the equipment of laboratories and in connexion with the anatomical department, with a view of keeping pace with the progress of science, and he also alluded to a valuable Anglo-Indian library which has been established through the munificence of Lieutenant-Colonel Sexton, a former student of the College. The visitors then proceeded to visit the various departments of the College, and on their return Mr. Justice Kenny, in the course of his address, referred to the highly satisfactory condition of the College and medical school. He also said that the medical visitors considered it desirable that a climatological station for training students, especially medical students, to take meteorological observations should be established in connexion with the splendid physical laboratory.

March 10th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Individual Isolation of Patients in Children's Hospitals.

AT a meeting of the Society for Diseases of Children held on Feb. 19th M. Lesage spoke of the great advantages of the individual isolation of patients and described what had been done on his initiative at the Hôpital Hérold with a view to prevent the patients contracting fresh infections (*contagions intra-hospitalières*) during their stay in the wards. Reconstruction has been in progress at this hospital and provision now exists for the individual isolation of each child in a cubicle with glass sides (*un box vitré*), open at the top but having a door which is kept closed. This arrangement of the wards is by itself sufficient to prevent infection without having recourse to rigorous precautions for the avoidance of contamination by indirect contact. There is no washing of hands or changing of overalls unless they are actually soiled; these precautions are, in fact, unnecessary when nothing more has been done than feeling a pulse or auscultating a patient. The charge nurse (*surveillante*) has been abolished. Each ordinary nurse (*infirmière*) is directly responsible to the principal medical officer for the six cubicles and six children under her care.

Implantation of a Metal Plate after Fracture of the Skull.

At a meeting of the Surgical Society M. Morestin gave some particulars of a case which had been under the care of M. Rouvillois. The patient was a young officer who by falling from his horse sustained a slight wound in the right temporo-parietal region. Although there was no symptom of compression an operation was performed and a fracture was found together with intracranial effusion which was evacuated by trephining. After the lapse of some weeks the patient's condition was satisfactory except for the presence of cranial hernia and an adherent cicatrix. In order to protect the brain against possible accidents M. Rouvillois freed the cicatrix and applied a perforated gold plate which he covered with a flap of skin taken from the back of the head. This operation was followed by recovery which has been maintained up to the present time.

Treatment of Exophthalmic Goitre.

At a meeting of the Academy of Medicine held on Feb. 25th M. Lancereaux and M. Paulesco said that the idea had occurred to them that sulphate of quinine was indicated in the treatment of exophthalmic goitre, because it was a typical vaso-constrictor, and the leading pathological feature of exophthalmic goitre was vaso-dilatation of the vessels of the head and neck. They accordingly administered sulphate of quinine to more than 20 patients suffering from this condition and the effects were excellent. Given in doses from one gramme to one and a half grammes in

cachets of 50 centigrammes every evening with food this remedy was continued for several months with occasional intervals. In this way M. Lancereaux and M. Paulesco succeeded in putting an end to the phenomena of vaso-dilatation in the vessels of the head and neck and at the same time to the debilitating nightmares, to the tachycardia, to the exophthalmos, and to the goitre; in a word, they had brought about permanent recovery.

Surgery of the Liver.

M. Quenu has operated in four cases of cancer of the gall-bladder without being able to remove the diseased parts; in three of them he did not proceed beyond exploratory laparotomy, and in the fourth, suspecting the existence of biliary calculus, he sought for the gall-bladder in the midst of a mass of new growth but desisted on perceiving that he had to do with epitheliomatous infiltration. M. Quenu believes that epithelioma often complicates biliary lithiasis and that a systematic histological examination of gall-bladders removed for this cause would often reveal epitheliomatous lesions. According to the statistics published in foreign countries the results of operations for cancer of the gall-bladder are generally rather poor. Nevertheless, in 23 cases of cholecystectomy for cancer there was only one death due to the operation and with several of the patients operated on the prolongation of life was truly remarkable.

Riot at the Clermont-Ferrand School of Medicine.

An acute disturbance occurred on March 9th at the Clermont-Ferrand School of Medicine. Thanks to the influence of the Minister of Public Instruction a new Professor, Monsieur Vigenaud, a radical municipal councillor, had been appointed at the end of December without the ordeal of going through the *concours*. The new professor began his duty on March 6th and the occasion passed off without incident but also without any audience, so to speak, for there were only six students present. On the 9th the students turned up in force and they made such a noise that M. Vigenaud could not get out a word and had to take refuge in a neighbouring lecture room. The students followed him into the room and demanded that he should send in his resignation which he accordingly did on the afternoon of the same day.

"The Roux Hygienic Pipe."

Dr. Roux, the well-known director of the Pasteur Institute, has just gained an action which he brought against two commercial inventors who, to give a scientific flavour to an invention of their own, had brought out a pipe which they called "Pipe Hygiénique Roux." They were sentenced to pay Dr. Roux 2000 francs damages, the designation of the pipe was to be suppressed, and the judgment was to be published in five separate newspapers.

March 9th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Mr. Andrew Carnegie's Gift to the Koch Fund.

To celebrate the twenty-fifth anniversary of Professor Robert Koch's discovery of the tubercle bacillus a committee has been formed with the object of collecting a sum of 1,000,000 marks (£50,000) to be called "Robert Koch Stiftung." The money will be used in encouraging researches bearing on the fight against tuberculosis. Up to a short time ago only 300,000 marks had been collected, so that probably there might have been great delay in realising the committee's purpose had not Mr. Andrew Carnegie contributed a sum of not less than 500,000 marks, thus leaving only a deficiency of 200,000 marks. This balance still remaining to be collected is likely to be subscribed before long as it will be a duty of the rich men of Germany to equal the generosity of Mr. Carnegie. It must be remarked that this is the first instance in which Mr. Carnegie has contributed money to an institution outside America or Great Britain. The *Deutsche Medizinische Wochenschrift*, in commenting upon this gift, calls it a conspicuous example of a noble mind and a typical act of this generous friend of humanity.

Proposed Legislation against Quackery.

It has been already explained in these columns on various occasions that in Germany anybody may practise medicine without possessing a legal qualification provided that he avoids assuming a title equivalent or similar to the titles of duly qualified medical practitioners. The consequence of this state of matters, which has existed since 1869, has been an unlimited increase of quacks of every kind whose advertisements fill many columns of the daily and weekly newspapers. Many attempts have been made by the representatives of the medical profession to induce the Government to change the present legislation, but all their efforts have been unavailing; it was said in the Parliamentary debates on this subject that the German public was intelligent enough to distinguish between qualified and unqualified medical men and that if people preferred to be treated by quacks it was their own business. Of course, these views are in marked contrast to the principles of government followed in Germany in other cases, and in opposition to them it has been argued that unskilful treatment might be injurious not only to the individual patient but to the general public also. For instance, in infectious diseases or syphilis the measures necessary to prevent the spread of the disease might be hindered by the intervention of some quack. The persistent efforts of the medical profession, and especially of the Society for the Prevention of Quackery, have gradually succeeded in convincing the Government and the general public that medical quackery is a social danger, and the Government has accordingly at last introduced a Bill directed against quackery and against the sale of medicines of undisclosed composition. The Bill, however, does not do away completely with unqualified practice; it even gives some legal recognition to unqualified practitioners as a class by providing that they must register their addresses at the offices of the local authority; they must also inform the said authority of the circumstances in which their medical training was obtained, and they must keep books according to a prescribed form. Another paragraph of the Bill forbids unqualified persons to treat patients by letter without examination and excludes infectious and venereal diseases from treatment by them. The administration of narcotic compounds and the use of hypnotism and mystical ceremonies are also prohibited. The authorities are empowered to prohibit an unqualified person from practising if he has evidently injured the health of patients and where he has been convicted by a court of justice. Other paragraphs deal with the sale of patent medicines. The sale of such medicines may be prohibited by the Federal Council when they are prejudicial to health or obviously intended to deceive the public. A special commission in connexion with the Imperial Health Office will inform the Federal Council what patent medicines should in its opinion be excluded from sale in Germany. Advertisers of anti-venereal, or aphrodisiac, or anti-conceptional compounds, or medicinal preparations the composition of which is undisclosed, and those who publish advertisements which are evidently fraudulent, may be punished with a fine not exceeding 3000 marks (£150) or with imprisonment for a period not exceeding one year. This Bill, although a step in advance, is not sufficiently far-reaching, because by making regulations to be observed by unqualified practitioners it gives them official recognition. It thus seems to create a new class of practitioners who, though being below the standard of the fully qualified medical profession, are nevertheless legally entitled to attend patients on complying with certain conditions. It would have been better to go to the root of the evil by absolutely prohibiting the practice of medicine by persons who are not in possession of a full medical diploma and by prohibiting quack advertisements. It is, however, very improbable that such a radical measure would ever obtain Parliamentary assent, for the unqualified persons whose interests would be affected find many influential supporters among Members of Parliament.

March 9th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Cancer of the Uterus and its Treatment.

Dr. Paul Kubinyi, first assistant at the Second Gynæcological Clinic of the University of Budapest, has compiled his clinical experiences with regard to cancer of the uterus in a large and well-illustrated volume of 480 pages. His observations are founded on a vast amount of clinical material which has been utilised in accordance with the latest scientific

investigations. Dr. Kubinyi having been for a long time connected with the clinic has personally attended almost all the cases referred to in his work. His chief, Professor Tauffer, was the first surgeon in Hungary who performed total extirpation of the uterus. Since the first operation 121 total extirpations have been made; out of these about 20 were performed by Dr. Kubinyi himself. The operations were fairly successful, the mortality being only 14 per cent.; due regard must also be had to the fact that many of the cases were very advanced. The decline of the death-rate of the operated cases was noticeable from year to year. As to the technique of the operations, Dr. Kubinyi says that both his chief and himself adhere to the use of the large artery clamps (angioclast), although it cannot be denied that this instrument has some drawbacks, especially the frequent occurrence of secondary hæmorrhages. Amongst the 121 operations there were various complications—namely, lesions of the bladder in eight cases, lesions of the ureter in six cases, and lesions of the rectum in four cases. Dr. Kubinyi finds that the use of the angioclast considerably shortens the duration of the operation. The average time occupied by the operation was from 15 to 20 minutes. In the concluding portion of his work he criticises the methods of teaching at present followed in the University. He maintains that it is unfair always to blame the practitioners for the neglected cases which come under the surgeon's care when they are either inoperable or offer only a very slight hope of success. It would be more reasonable to blame the defective educational system under which the students gain merely theoretical knowledge and attend patients before they have had sufficient practical training. As long as 150 students are crowding the operating theatres it cannot be expected that they will become successful practitioners, on whose shoulders rests the solution of the whole cancer problem. If the practitioner recognises a uterine cancer in its initial stage and sends the patient at once to a surgeon, then the best chances of recovery have been insured.

The Sick-Club Question.

On Feb. 23rd the medical officers of the sick clubs held a meeting in order to arrive at a final decision in the conflict between the clubs and the medical officers. The chair was taken by Dr. Nàndor Flesch, chief secretary of the Hungarian Medical Association. On account of the presence of a great many country practitioners at the meeting Dr. Flesch related the history of all the negotiations between the clubs and the special committee of the Medical Association. He said that in spite of every effort the committee could not come to an agreement with the managers of the clubs, partly because the fees offered are exceedingly low—3 kronen (2*s.* 6*d.*) as compared with the 6 kronen which were asked—and partly because the managers of the clubs would not allow the medical men a free hand in strictly medical affairs. For these reasons Dr. Flesch advised the committee to abstain from any further negotiations with the club managers. It will be much more convenient to let every district branch of the Medical Association negotiate with the local clubs. It was, however, unanimously resolved to send an ultimatum to the clubs informing them that if they do not on or before March 15th agree to pay 6 kronen per member then the medical officers will declare a strike.

Popular Lectures on Hygienic Subjects.

At the last meeting of the Society for the Propagation of Science Dr. Bròd Miksa read a paper on the Deficiency of House Accommodation in Budapest. He said that he had had measurements made of the dwellings of 1604 sick members of the Budapest District Sick Club and had collected authentic data about the conditions of living of several thousand workmen inhabiting these places—namely, their yearly income, their rent, the state of their health, and the number of rooms and cots. Dr. Bròd Miksa made some terrible disclosures about the miserable condition of these unfortunate people. His investigations showed that only 53 per cent. of the workers possess beds; the others lie on sacks of straw, and in many cases even on the bare floor. Many have to share their beds with two or three others, healthy and sick together. He even found a working woman who had to share her bed with a strange woman immediately after confinement. Not a single workman was found who could claim to have a daily income of 5 kronen (something over 4*s.*); needlewomen earn an average of 2*s.*, and factory workers 1*s.* As to food, only 22 out of 100 workmen have meat every day; most of the workmen live on vegetables, bacon, and flour puddings. Wine is very little consumed by them, strong alcoholic beverages being more used.

The Symptomatological Importance of the Percussion Note given by the Vertebral Column.

Dr. Frederick Korányi, professor of clinical medicine at the University of Budapest, delivered a very interesting address on the above subject at a meeting of the Royal Medical Society. He said that the percussion note of the vertebral column where it covered healthy organs was decidedly different from that elicited when the organ behind it was pathologically changed. He exhibited a case of pleuritic effusion, on which he demonstrated the trigonum pleuriticum (a dull area) discovered and named by himself. He had very satisfactory results with his percussory method in cases of abdominal and pelvic tumours and other malformations. He then demonstrated his method of examining the vertebral column and showed that absolutely typical percussion notes could be elicited on the lumbar, sacral, and coccygeal portions of the column. He also demonstrated the pathological difference of the percussion notes on patients brought from the Gynæcological Clinic. He showed on these patients how the note changed in cases of parametritic exudation, displacement of the uterus, and uterine tumours.

March 7th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENT.)

Plague and its Treatment in Calcutta.

THERE have never been in Calcutta epidemics of plague such as have swept through the crowded quarters of Bombay and the bazaars of Poona, though in 1900 the disease threatened to extend to Calcutta in an alarming way. But that was the worst year, and since then the incidence of the disease has been comparatively slight. This phrase is used advisedly, for there have been 50,000 deaths in all in the last ten years. This may seem a heavy mortality, but the figures for Bombay city make this bill of mortality appear a small one. Whatever the reason may be plague does not take a great hold upon this city and the sanitary improvements carried out in the worst quarters have unquestionably done much to prevent really severe epidemics since 1900. In an interesting report just presented by Dr. W. C. Hossack, special health officer, this point is clearly brought out, for the two wards which used to suffer most showed last year cases only of 1 in 123 and 1 in 140 of the total population. Formerly the figures were 1 in 47 and 1 in 64. We read that "all the bad '*basti*' centres in these two wards have been cleared out and many of the old and insanitary masonry houses opened up, remodelled, repaired, and put in a proper sanitary condition." A practical commonsense policy has in fact been followed and the general health of Calcutta must have benefited in consequence. It is in the miserable mud huts and Kacha dwelling houses that the disease appears most often. Over 71 per cent. of cases came from these last year, and if we could rebuild the whole native city plague would not get any foothold here. There may be something in the climate and the soil which is inimical to the bacillus, for disinfection has the most remarkable results—the average number of cases per infected house last year was only 1·11. Given fairly healthy surroundings and the poorest classes even in Calcutta need not apparently dread plague. With regard to preventive measures, apart from the sanitary measures taken, there has been a war waged against rats, but it is doubtful whether any great impression has been produced upon these vermin. Upwards of 122,000 were killed last year, but these figures are not impressive when we think of the 4,000,000 rats destroyed by the Japanese in Tokio in three years. It is in the northern parts of the city that most have been killed and it is here that the greatest stores of grain are kept. Until the store-rooms are of good masonry the rats will increase and multiply, as they have ample food supplies upon which to live. In the European quarters their numbers are said to have diminished greatly and the big livery stables in Dharamtollah have practically been purged of their presence. When we get rat-proof godowns for food grains—and such are now being built in some parts of the town—greater success will be gained in the operations in this particular direction. As to inoculation as a prophylactic measure the population as a whole has shown an indifference which is rather disheartening. Some 3100 persons were inoculated last year as against 101 in 1905–06, and at first sight this increase would seem to be satisfactory; but Dr. Hossack has no illusions on the subject. A few Europeans and one or

two educated Bengalis had themselves and their families inoculated it is true; but it is said, "with these extremely rare exceptions the whole of the inoculations were done on people attracted by the reward of eight annas; beggars, drunkards, victims of the opium, hashesh or cocaine habit—the dregs of the streets." These persons come up again and again, anxious to have the eight annas, and care had to be taken to prevent the inoculation of the same person two or three times a month. They have actually taken to making a round of the wards so as to escape detection. Singularly enough, a beggar who had certainly been inoculated three times in a very short period contracted plague; his "case" history should be worthy of record. Dr. Hossack has a good deal to say on the rat and flea theory; and his remarks should attract particular attention in Bombay. He states that the Calcutta pulex cheopis, the rat-flea, will hardly bite human beings at all, even when it is starved; it does not seem to flourish here either and the spread of plague in seasons of epidemic cannot be traced to it. For the information of the curious it may be noted that pulex irritans, the common household flea, is very rare here but that the dog-flea abounds. Dr. Hossack holds that there is no panacea for plague, and he pins his faith to general sanitary improvement though he would exterminate the rat if he could. Practical conclusions are that there is no panacea for plague and all that can be done is to do as much as is practicable for the extermination of rats, preferably with the aid of special legislation in the matter of building. Disinfection must be carried out preferably with a pulicidal disinfectant, but the only thing on which to place reliance is the very difficult measure of general sanitary improvement. Preventive inoculation must be pressed so far as possible, but until the people display a less antagonistic attitude towards it than they do at present it cannot be counted on much as a practical measure. Research work must be prosecuted more vigorously than it has been in the past and the following are points on which evidence might profitably be collected. Much of the work on fleas in Calcutta has been done during the non-epidemic period; this will have to be confirmed during the epidemic period. Post-mortem examinations must be made to decide whether Hunter's contention is correct that even in man intestinal lesions are common and point to food infection. His feeding experiments might well be repeated here as also the Commission's flea-infection experiments. It is hardly necessary to point out that if such experiments as are suggested are to be carried out there must be some provision of a special plague laboratory in which plague-infected animals may be kept. Some increase in the staff will also be necessary if experiments are to be carried out on such a scale as to produce convincing result.

The Jackal in Bengal.

The Government of Bengal has recently been considering the question whether the jackal is a sufficiently dangerous animal to make it worth while to put a reward upon its head. It is reported that the mortality caused by jackals has at particular times and in particular places been serious but not so great as to induce the Government to take special measures. The mortality referred to has probably in most cases been due to hydrophobia, for the jackal seems to be peculiarly susceptible to rabies. A healthy jackal is rarely dangerous to anything above the size of a fowl but a mad jackal often plays havoc among both men and cattle. Meanwhile the Lieutenant-Governor has given authority to Commissioners to take steps to encourage the destruction of jackals in any locality where, or at any time when, they may become a dangerous pest and has sanctioned the payment of a reward not exceeding eight annas for each animal destroyed. The amount of the reward is not very tempting and in the case of a mad animal it is very inadequate, so there seems little risk of the extinction of the species. The jackal serves a useful economic purpose as a scavenger and in any measures for its destruction this is an aspect of the question that should not be overlooked.

Feb. 20th.

NOTES FROM CHINA.

(FROM OUR OWN CORRESPONDENT.)

Union Medical College, Peking.

THE annual professional examinations of the above institution have just been held and out of 47 students who went up 38 were successful in passing. The examinations were conducted by an international examining board composed of some of the medical officers of the legations there, acting in conjunction with the teachers of the various subjects. As one of the examiners of this board I could not fail to be impressed, as were the other members, at the way in which the students answered questions. In anatomy, with the exception of an imported limb and bones, all the teaching is done from models, made in Paris. Waterston's Stereoscopic Atlas of Anatomy was also employed. The students knew their models well but the different structures, nerves, arteries, &c., are much too plain to be as useful as teaching from the *corpus vile* and they will have difficulty later when learning surgery. As long as human dissection is not officially permitted it will not be possible to alter this unsatisfactory state of affairs. The subjects for examination were anatomy, physiology, practical histology, therapeutics, and biology. All of these have been taught entirely in Chinese, the terms used being those of the Shanghai Terminological Committee. It is gratifying to the principal (Dr. T. Cochrane) and his staff that they have such good material to work upon, as the average Chinese student is diligent and assiduous in his studies, while at the same time he is fortunate in being the possessor of a well-developed memory that would be the envy of his foreign contemporaries. The whole system of early education in China is one of memorising thousands of ideograms—one for each word—and thus it comes that his memory is trained to a high pitch from his earliest days.

The China Medical Journal.

Efforts are being made by the Medical Missionary Association of China to bring into line the experiences of medical practitioners all over the empire and there has been much improvement of late in the journal which is issued bi-monthly and is well illustrated, and to which any medical man, be he missionary or not, may contribute. The work of the various post-graduate courses in England and America is showing good results not only in the more scientific way in which diseases are discussed but also in the increased number of men who are *au fait* with the methods of clinical research. The first number of this year contains, among others, an article by Dr. C. K. Roys on the Etiology and Diagnosis of Enlarged Spleen which is so common in the province of Shantung. It formed 14 per cent. of all cases treated by Dr. Roys during the past six months. The average age of those affected was 14 years, and the poor are more often affected than the rich. In no case was any malarial parasite found, and in only 3 per cent. was there any evidence of malaria. Though Manson says of enlarged spleen that "wherever they are common the district is malarious and therefore unhealthy, perhaps to Europeans deadly," Dr. Roys said that Shantung province is very little affected with malaria. No foreign children have had it, and in 25 years there have been only two known cases among European adults, both of whom suffered from attacks previously to arrival in this region. Dr. Roys looks upon malnutrition as the chief exciting cause. The food being limited to millet with no meat or rice is lacking in proteins. None of his cases showed primary anæmia or symptoms of idiopathic blood diseases so often associated with enlarged spleen. Hæmoglobin averaged 50 per cent. and none of the counts made showed a leucopenia as in kala-azar. In the few sporadic cases that have come under the notice of your correspondent in Peking noma oris has been the leading symptom, accompanied invariably by evidence of protein starvation. In another article Dr. R. T. Booth of Hankow cites a case of ligature of the common femoral artery and vein in which no sign of deficient collateral circulation appeared and the patient did well, although he had been admitted to hospital suffering from a granulomatous condition of the penis, a mass of enlarged glands in the right groin, and an ulcerated cavity in the left groin. Complete amputation of the penis and double castration with enucleation of glands in the right groin were effected. It was on lightly scraping the left groin that the ulceration was found to have affected the vessels from which there was a tremendous flow of blood. There was no œdema or coldness of the limb. Dr. R. Ascornet, the Imperial Maritime Customs surgeon at Pakhoi, the southernmost port in China, in his report for part of 1907, makes a point in relation to plague which confirms the recent utterances of Mr. Haffkine and Dr. J. Ashburton Thompson with regard to plague occurring independently of communication of the infection from the sick. An outbreak occurred in Ti-cok—about four miles from Pakhoi—and raged for a month there, causing a heavy mortality, but it was entirely limited to this village of 1500 inhabitants and no case was observed either

at Pakhoi or in any of the surrounding villages. He adds: "Il est étonnant que vu le mouvement continuel et très important d'échange qui se fait entre cette ville et Pakhoi, cette dernière soit restée complètement indemne."

The Opium Habit.

In the eyes of those of us in China who are best able to judge the British Government is doing its utmost, so far as is reasonable and fair, to suppress the opium traffic. China also seems in earnest and the recently opened Government bureau for the suppression of opium-smoking is beginning to make itself unpleasantly felt among those habituated to the drug. In England where the liberty of the subject is such a frequent cry when any attempts are made to ameliorate the lot of the people an outcry would soon result if the following methods were followed for putting down alcoholism. I refer to a supplementary set of regulations which have been issued by the bureau in question which now requires that all smokers under the age of 60 years shall take out a licence quarterly which shall not be transferable and which must each time it is renewed state that it is for a smaller amount of opium than the former permit and, further, that no smoker shall apply for the same amount for more than ten consecutive days. In this way it is estimated that the habit should be altogether overcome in the course of from three to six months. Smokers can only obtain the drug from licensed shops and must always obtain their supplies from the same shop, so that their consumption can be checked. They must always carry their permits and present them when purchasing opium and the shops are also required to send in monthly returns showing the amount sold by them each day. Travellers can obtain their supplies from the hotel-keepers who will be held responsible for their customers and who will be granted supplies on specially issued travellers' permits. Smokers of more than 60 years are allowed a free hand! These regulations are for this province (Chih-li) where the evil is not so great as it is down south.

Feb. 5th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Severe Heat Wave.

A HEAT wave of unusual severity and almost unexampled duration passed over South Australia and Victoria between Jan. 13th and 20th. Although the thermometric readings were higher in Adelaide the heat was most trying in Melbourne. The maximum shade readings at the Melbourne Observatory were 109·2° F. on Jan. 17th and 107·6° on Jan. 20th. From the 15th to the 20th the daily maximum in the shade was well over 102°. On Jan. 17th a carefully observed thermometer in the city stood at 112° in a louvred shade box on the roof. Inland some very intense heat was experienced. Over 100 deaths are reported from various parts of Victoria as directly attributable to the heat. At the Melbourne Hospital 23 cases of heat apoplexy were admitted, of which 15 were fatal. Fatalities occurred chiefly among elderly persons and infants. The duration of such intense heat for six days has not a parallel in the Victorian record, though a somewhat similar spell occurred in 1898 over a period of five days.

Australasian Medical Congress.

The arrangements for the congress to be held in Melbourne in October, 1908, are well forward. In the section of medicine special attention will be given to the Conditions of Anæmia which occur in Australia and the Types of Tuberculosis with reference to Sanatorium and Tuberculin Treatment and the Value of Opsonic Indices. In the section of surgery a special discussion will be held on the Surgery of Nerves and Paralysis, opened by Mr. H. S. Newlands of Adelaide and Dr. Basil Kilvington of Melbourne. The Surgical Diseases of the Bile-passages and Pancreas will be discussed by Dr. H. V. C. Hinder of Sydney and Dr. W. Anstey Giles of Adelaide. The Surgery of Non-malignant Disease of the Stomach will receive special consideration from Dr. T. H. Fiaschi of Sydney, Dr. J. Ramsay of Launceston, Tasmania, and Mr. W. H. Brown of Colac, Victoria. Septic Peritonitis and its Surgery will be reviewed by Dr. W. Chisholm of Sydney and Dr. R. B. Duncan of Kyneton, Victoria. Dr. Zwaar will deal with Spinal Anæsthesia. The principal general discussions in the section of obstetrics will centre around the question of Premature Termination of Pregnancy; the Early Recognition of Pelvic Infectious Processes of the Puerperium; Eclampsia; Uterine Fibroids; and Dysmenorrhœa. In the diseases of children section Infantile Paralysis, Tubercle, and Rickets will be given special place, while the prevention of introduction of infectious diseases into children's hospitals has also been set down for general discussion. In all the remaining sections interesting work has been arranged and the congress promises to be as successful as any of the previous gatherings.

The Plague

Plague has reappeared in Sydney rather earlier than usual this summer. Up to Jan. 18th three cases have occurred. The disquieting feature of the outbreak is that it has taken place in a part of Sydney which has been hitherto unaffected. The first cases occurred in the vicinity of a produce store in the suburb of Marrickville. The dwellings from which the cases were removed were comfortable artisan cottages and were well kept. Plague rats had been discovered under the produce store and it is surmised that an infected rat may have been conveyed thither in a consignment of chaff which had come from Darling Harbour—a spot where plague rats are frequently discovered. Vigorous measures have been taken by the authorities. None of the cases have proved fatal.

Retiring Officers.

Dr. Woodward, the Government medical officer to the tramways and railways of New South Wales, is about to retire after a lengthy term of service. Dr. Woodward was an Imperial medical officer with a rank of surgeon-general and was appointed to his present position in the railway service in 1883. He was extremely popular and his organisation of the Railway and Tramway Ambulance Corps has been most successful. He compiled a text-book on ambulance soon after his appointment and this has run through five editions.—The city coroner of Melbourne, Mr. Candler, retired on Dec. 31st of last year after a continuous service extending over 54 years. Mr. Candler was born in 1827. His first appointment was in the early days of the "diggings," but he has been in office in and around Melbourne for more than 40 years. The Victorian Government has announced that Mr. Candler will be granted a pension. Many years ago Mr. Candler published monographs on "Consumption" and "Measles," but the views expressed as to etiology have been discounted by the advent of bacteriological science. He is the oldest surviving member of the Melbourne Club.

Alleged Conspiracy.

In September of last year a practitioner at Kalgoorlie, Western Australia, obtained a judgment for £200 damages against four fellow practitioners for alleged conspiracy against him in his professional calling. The full court has since set aside this judgment and entered judgment for the defendants with costs. The chief justice in the course of his judgment said: "No medical man was compelled to associate with any other practitioner. Two or more practitioners were at liberty to combine not to meet another as long as their object was not to injure the latter in his professional calling. Had it been proved that this was the object of the combination it would have contained an element of illegality necessary to conspiracy; as this had not been proved the verdict of the jury and judgment for plaintiff would be set aside." A stay of proceedings was granted till February to enable the plaintiff to ask leave to appeal to the High Courts.

Vicarious Snake Bite.

A case was reported from Shepperton, Victoria, in which a snake bit a small dog. The owner of the dog in attending to it was bitten by the dog and soon after developed marked symptoms of snake-bite poisoning. Dr. Welchmann, who subsequently treated the patient, kindly supplies the following account of the case. "The history was a little dog had been bitten by a snake and while pouring some whisky down the dog's throat it inserted its teeth between the thumb and forefinger of the left hand. The dog died and the patient was noticed to become drowsy. He was immediately driven off to hospital, stopping at one hotel on the road, where he was given some brandy, but as he was getting very sleepy the dose was not repeated. On arrival at the Mooroopna Hospital the patient was comatose and the pupils contracted. Vigorous anti-snakebite treatment was administered (scarification, strychnine, and locally permanganate of potassium,

&c.). Eight hours after the bite he was put to bed and a liberal dose of whitehouse mixture administered. He developed no further symptoms and was discharged four days later. The patient was an old soldier and had served with Lord Roberts in Afghanistan and never knew fear till the day of his accident. I treated him for snake bite pure and simple, no sign of alcoholism, and must say that his condition warranted heroic treatment as he was in a comatose state."

Vital Statistics.

In the quarter ending June 30th, 1907, the number of births in the Commonwealth was 27,895, of which 1656 were illegitimate. 267 cases of twin births were registered and nine cases of triplets. 14,324 were males and 13,571 were females. During the same period there were 10,707 deaths. Tuberculosis was the most destructive disease, claiming 939 victims, of whom 529 were males and 410 females.

Enteric Fever in Victoria.

A return just placed before the Board of Public Health shows a remarkable diminution in the number of cases in the past ten years. In 1898 there were 5423 country cases and 2020 cases in Melbourne, while last year the figures were 1030 and 350. The metropolitan sewerage system has greatly improved the figures for Melbourne.

Remarkable Occurrence.

While two lunatic patients were being taken by steam launch from Sydney to Gladesville Asylum, which is on the Parramatta River, one of them suddenly jumped overboard. Before the attendants grasped the situation the other patient had dived after the first and seizing hold of him kept him afloat till both were rescued by the launch party.

Obituary.

The death is announced of Dr. James Barrett, one of the oldest and most widely known of the older generation of medical men in Melbourne. Dr. Barrett was a native of Banbury, Oxfordshire, and arrived in Melbourne in 1858. He was one of the original members of the Alfred Hospital staff and for many years held a commission as justice of the peace. Three sons are members of the medical profession—viz., Dr. J. W. Barrett who is lecturer on physiology of the special senses at the University of Melbourne and was formerly demonstrator at King's College, London; Dr. Edgar A. Barrett; and Dr. John Barrett who was a distinguished cricketer and visited England as a member of an Australian eleven. One daughter, Dr. Edith Barrett, has also been practising medicine for some years in Melbourne.

Jan. 25th.

Obituary.

REGINALD HARRISON, F.R.C.S. ENG.,

CONSULTING SURGEON TO ST. PETER'S HOSPITAL FOR STONE, ETC.

THE unexpected death of Mr. Reginald Harrison has removed one who for 40 years played a hard-working and distinguished part in two great circles of surgical activity and who devoted his thought and time in no small degree to the alleviation of an unnecessary cause of suffering in city streets with which his hospital experience had early made him familiar.

Reginald Harrison was born 70 years ago in Shropshire and was the eldest son of the late Rev. Thomas Harrison of Stafford. He was educated at Rossal and received the rudiments of his medical training at the Stafford General Hospital where he came under the influence of the late Mr. Moreton of Tarvin, to whose instruction he was wont to acknowledge his lasting debt. Coming to London, he entered St. Bartholomew's Hospital and qualified M.R.C.S. and L.S.A. in 1859. He at once went to Liverpool, the city which was to become the nurse of his professional fortunes, although when he entered it he had not, in his own words, "the acquaintance of one professional friend in the city or neighbourhood." He started as house surgeon at the Northern Hospital and in the next year obtained the valuable appointment of resident surgeon to the Royal Infirmary, a post which he held for three years; at the end of this period he commenced practice but was able to devote much of his time to the remodelling of the Liverpool School of Medicine which had fallen into a very unstable condition. He was appointed demonstrator of anatomy and registrar in the school and shortly afterwards surgeon to the Northern Hospital. In 1866 he became a Fellow of the Royal College of Surgeons of England and two years later he was made assistant surgeon to the Royal Infirmary at Liverpool, succeeding to a full surgeoncy in 1874, and to the senior surgeoncy on the retirement of Mr. E. R. Bickersteth 14 years later. Harrison proved himself to have two qualities which, when they occur in one man, of necessity make for his success: he was an enthusiast and a steady worker. He has left a record of the latter fact in the Liverpool Hospital Reports, of which he was part editor from 1867 to 1871, and he performed a similar duty for the Liverpool and Manchester Reports from 1873 to 1878. During these years other duties were crowding upon him; he was made successively lecturer in Surgery and Anatomy at the Liverpool School of Medicine and in Clinical Surgery at the Victoria University which had not yet undergone its analytical reconstruction. He was also an examiner in surgery at the University of Durham as well as at his own.

In 1883 he was chosen to deliver the Address in Surgery at the Liverpool meeting of the British Medical Association and in 1888 he became President of the Liverpool Medical Institution. In that year he was asked to deliver the Lettsomian Lectures before the Medical Society of London, and he took for his subject "Some Points in the Surgery of the Urinary Organs." By this time he was in the enjoyment of a wide consulting and operating practice, especially in urinary surgery, the branch in which he had taken a special interest from the outset of his career. It was more a matter of regret than surprise to his colleagues, therefore, when in the next year he was invited to go to London to fill the place of the late Mr. Walter Coulson as surgeon to the St. Peter's Hospital for Stone. He accepted the invitation and at his departure from Liverpool was presented with an address and pieces of plate, the presentation being made by the late Sir W. Mitchell Banks. Sixteen years later Harrison returned to Liverpool to do public honour to the memory of that same distinguished surgeon who had been his close personal friend, the occasion being his delivery of the first Banks Memorial Lecture. He took for his subject "The Prospects and Retrospects of University Life," and in the course of a graceful tribute to his departed colleague he showed his deep knowledge of the records of his own university, of the court of which he was a life member. Whilst at Liverpool he married Jane, daughter of Mr. A. Baron, of that city. Harrison came to London with his reputation made and from the first his success in private practice was assured. He continued to play a prominent part in professional life and held many offices; he was made a Vice-President of, and Hunterian professor to, the Royal College of Surgeons in 1890, and Bradshaw lecturer in 1896, when he took for his subject "Vesical Stone and Prostatic Disorders." In the same year he was elected President of the Medical Society of London and gave his official address on "The Treatment of Some Forms of Albuminuria by Renipuncture." Two years later he was made a Vice-President of the Royal Medical and Chirurgical Society, and in 1902 he delivered the annual memorial lecture of the Hunterian Society. This was by no means his last official public utterance, for in 1904 he practically founded the Metropolitan Street Ambulance Association and since then until his death the presidency of that body was a labour of love with him. His interest in ambulance work dated back to his hospital days at Liverpool and he made a careful study of all the systems employed, so that he became an acknowledged authority on ambulance work in civil life. He published a book on the subject, which is in its sixth edition, but his ideals took more solid form than ink and paper.

We need not rehearse all the phases of the movement of which he was the guiding spirit, for we have made frequent allusion to the street ambulance problem for London, and need only refer to a leading article on the subject in THE LANCET of Nov. 23rd, 1907, p. 1474, for an epitome of the whole matter; but we may repeat that Reginald Harrison has been the mainspring of the movement and the fulfilment of his scheme for a motor ambulance service, in so far as it affects the City of London, was a fitting reward for his labour. He was keenly interested in the outcome of the Parliamentary Committee which still has the matter in hand and we wish he could have died assured that it will lead to the extension of the City's system to the whole metropolitan area. His delight was unmistakeable on the two occasions during last year of the public trials of the "White Swan" of the City, as the ambulance car has been dubbed, for the successful

institution of which, as our readers will remember, the public owes a good deal to Captain Nott Bower, the Chief Commissioner of the City Police, who was Mr. Harrison's son-in-law. In recognition of his ambulance work he was made a Knight of Grace of the Order of St. John of Jerusalem. Two years ago the Khedive of Egypt conferred upon him the First Class of the Imperial Order of the Medjidieh in appreciation of his services. He was an honorary member of the French Surgical and Urological Society and of more than one similar society in America. He showed his sympathy with distant colleagues by appealing to the profession at home for duplicate copies of books to send to Toronto to replace the medical section of the library after it had been destroyed by fire in 1390.

Such was his public career. In private life he was a kind and courteous gentleman, a man who attracted friends naturally. He was a man of wide tastes outside surgery, and these are well indicated by saying that he was a member of the Athenæum, the Garrick, and the M.C.C. He died at Lower Berkeley-street on Feb. 28th from influenzal pneumonia after a very short illness. He is survived by one son and two daughters. Mr. Harrison was an industrious writer, as our own columns abundantly testify. During the last two decades of the last century there were few years in which he did not contribute some paper of urological interest, so that his papers form a fair epitome of the progress of that branch of surgery. The books which he published, besides those mentioned above, were "The Urethrotomies and Kidney Capsulotomy," "The Surgical Disorders of the Urinary Organs," and "Clinical Lectures on Stone and Urinary Disorders." His occasional contributions, were largely concerned with urethrotomy, the treatment of certain cases of acute nephritis by renipuncture and later by capsulotomy, and the pathology and treatment of enlarged prostate. For long he advocated vasectomy in this last-named condition but in his later writings he gave due consideration to prostatectomy. He maintained a prejudice in favour of the perineal route for lithotomy after the pendulum of opinion had swung towards the suprapubic operation but he was no slave to custom and judged every procedure on what appeared to him to be its merits. As far back as 1888 he demonstrated the electric endoscope at Liverpool and then reminded his audience that 20 years previously he had shown there Desormeaux's primitive instrument with its paraffin illumination. In his Bradshaw lecture in 1896 he showed a keen appreciation of the potentiality of the x rays as a means of diagnosis of stone, a prophesy which he lived to see justified. Amongst other subjects on which he wrote were albuminuria and kidney tension, lithotrity, and urine fever. His thoughts, however, were not entirely fixed on his special practice for three years ago he sent us a thoughtful little paper on the possible connexion between the increase in appendicitis and the use of boric acid as a preservative of food.

Dr. Richard Caton, Lord Mayor of Liverpool, and an old friend and colleague of Mr. Reginald Harrison, has kindly sent to us the following supplementary note. "The numerous friends of the late Mr. Reginald Harrison, alike those in the profession and among the laity, have heard with the deepest regret the news of his death. In Liverpool the feeling was particularly strong and widespread. The bonhomie, cheeriness, kindliness of nature which characterised Mr. Harrison, no less than his great ability in his own professional sphere, caused him to be greatly beloved and highly valued. The special ability and tact which were so characteristic of him were of great value not merely in the hospitals which he served so diligently in Liverpool, but also in regard to his connexion with the Medical Institution and the School of Medicine. It is well known that Great Britain owed to Mr. Harrison the introduction of the ambulance system. He had noted during his travels in America the great advantages that method offered, and after some difficulty he succeeded in persuading the authorities in Liverpool to institute an exactly similar arrangement. This, as we know, has now been copied in a large number of cities not only in England but throughout Europe, and is found of the greatest advantage. Mr. Harrison's zeal and energy were exceedingly valuable also to the School of Medicine. At a time when that institution was in low water and when it was a matter of doubt whether it was worth while continuing it, Mr. Harrison together with two or three of his colleagues were of opinion that if improved and maintained it might prove the germ from which a college and even a university might spring in the city of Liverpool, and to a considerable extent the present flourishing University of Liverpool has to thank him that its foundation took place at so early a date as it did. Mr. Harrison was greatly beloved by his students. His methods of teaching were simple, direct, and practical. He wasted little time in disquisitions upon theory, but he showed his pupils how to form a careful diagnosis and how to carry out a useful and practical treatment. The loss to Mr. Harrison's private friends is indeed a very great one. Not many men have such kindliness, such capacities for friendship, and few had the wonderful memory that he possessed in regard to faces and individuals whom he had known even at remote periods of time. Nowhere is his loss more lamented than among his many friends in Liverpool."

EDWARD DILLON MAPOTHER, M.D. R.U.I., F.R.C.S. IREL.

THE many friends in England and Ireland of Dr. Edward Dillon Mapother, and those Irishmen scattered through the world who were his former pupils at the Royal College of Surgeons in Ireland will regret to hear of his death which took place at his residence, 16, Welbeck-street, London, W., from influenza and broncho-pneumonia, on March 3rd, in his seventy-third year. He had retired from active practice for several years and had lately been in failing health.

Dr. Mapother belonged to a well-known Roscommon family of English descent but long settled in that county. He was born at Fairview, near Dublin, on Oct. 14th, 1835. The system of apprenticeship being still in vogue when he commenced his professional studies he was bound to Dr. Hatch Power, professor of surgery in the Royal College of Surgeons, Dublin. In 1857 he graduated M.D. (with first honours and gold medal) in the Queen's University. For some years he was engaged in tutorial work and prepared many successful candidates for the medical service of the Crown as well as for graduation. In 1862 he became a Fellow of the College of Surgeons and soon after, in 1867, was elected professor of anatomy and physiology in succession to Professor Jacob, having been appointed in 1864 to the chair of hygiene. He had been surgeon to St. Vincent's Hospital from 1859 as well as to the Children's Hospital. For several years he discharged with conspicuous ability the onerous duties of medical officer of health of Dublin, and many much-needed sanitary reforms owe their initiation to his courage and energy. He was elected President of the Royal College of Surgeons in Ireland in 1879 and it was largely due to his exertions in his year of office that the dental diploma of the College was instituted, while later he took a leading part in the movement which brought about the amalgamation of the Carmichael and Ledwich schools with that of the College. He was the author of many professional works, amongst others "A Manual of Physiology" (three editions), "Lectures on Public Health," and "The Body and its Health," a book for primary schools (six editions). In 1868 he won the Carmichael prize for the best essay on "Medical Education." He delivered the address on public medicine at the Brighton meeting of the British Medical Association in 1886. During the next few years he spent a considerable time at the centres of medical education in France and Germany in the study of skin diseases as well as syphilis and gout.

In 1888 he removed the sphere of his consulting practice to London and was presented with a farewell address by the leading members of the profession in Dublin. In that year he was President of the Dublin branch of the British Medical Association. Dr. Mapother was also a Fellow of the Royal Medical and Chirurgical Society, a member of council of the Medical Society of London, and chairman of the Irish Medical Schools' and Graduates' Association. He was also for some years, 1880–1886, surgeon to the Lords Lieutenant of Ireland.

He married in 1870 Ellen, daughter of the Hon. John Tobin, M.P., of Halifax, Canada, who survives him and has issue one son, Edward Mapother, M.B., B.S. Lond., who has lately entered the medical profession and is at present house physician at University College Hospital, and six daughters, of whom five survive.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The death of the following eminent foreign medical man is announced: Dr. Ferdinand Petersen, extraordinary professor of surgery in the University of Kiel, aged 62 years.

Medical News.

TRINITY COLLEGE, DUBLIN.—At the Final Examination in Medicine in Hilary term the following candidates were successful :—

Part I.—John L. Phibbs, Frederick A. Anderson, Desmond Drew, and Wellesley R. Allen.

FOREIGN UNIVERSITY INTELLIGENCE.—*Basle:* Dr. Paul Knapp has been recognised as *privat-docent* of Ophthalmology.—*Berlin:* Dr. Emil Abderhalden, *privat-docent* of Physiology, and Dr. A. Hildebrandt, *privat-docent* of Surgery, have been granted the title of Professor.—*Bologna:* Dr. Giovanni Rubinato has been recognised as *privat-docent* of Internal Pathology.—*Bonn:* Dr. Binz, Professor of Pharmacology, is retiring at the age of 75 years.—*Breslau:* Dr. Wilhelm Harttung of the dermatological department in the Allerheiligen Hospital and Dr. Keller, *privat-docent* of Children's Diseases, have been granted the title of Professor.—*Budapest:* Dr. Karl Hudovernig has been recognised as *privat-docent* of Neurology and Mental Diseases.—*Göttingen:* The title of Professor has been conferred upon Dr. Adolf Jenckel, *privat-docent* of Surgery.—*Heidelberg:* Dr. von Wasielewski, *privat docent* of the Cancer Institute, has been appointed Extraordinary Professor.—*Jena:* Dr. Karl Wittmaarck of Greifswald has been appointed Extraordinary Professor of Otology.—*Kiel:* Dr. Reiner Müller has been recognised as *privat-docent* of Hygiene and Bacteriology; Dr. Friedrich Bering as *privat-docent* of Dermatology; and Dr. Oskar Wandel, *privat-docent* of Medicine, has been granted the title of Professor.—*Leipsic:* Dr. Ernst von Brücke has been recognised as *privat-docent* of Physiology and Dr. Max Versé has been recognised as *privat-docent* of Pathological Anatomy.—*Lemberg:* Dr. Adam Salowij, *privat-docent* of Gynæcology, Dr. Roman Rencke, *privat-docent* of Medicine, and Dr. Edmund Biernacki, *privat-docent* of Experimental Pathology, have been granted the title of Extraordinary Professor.—*Leyden:* Dr. F. Basenau has been recognised as *privat-docent* of Hygiene.—*Marburg:* Dr. Rudolf Häcker of Greifswald has been recognised as *privat-docent* of Surgery.—*Montreal (Laval University):* Dr. Loir has been appointed Professor of Medicine.—*Munich:* Dr. L. Neumeyer, *privat-docent* of Anatomy, has been granted the title of Professor.—*Naples:* Dr. Ettore Pasini and Dr. Michele Scinti have been recognised as *privat-docenten* of Neurology and Psychiatry.—*Pisa:* Dr. Giovanni Pellizzi, Extraordinary Professor of Psychiatry, has been promoted to the Ordinary Professorship.—*Prague (Bohemian University):* Dr. W. Mladejovsky, *privat-docent* of Balneology and Climatology, has been granted the title of Extraordinary Professor.—*Rome:* Dr. Nicola Pende has been recognised as *privat-docent* of Internal Pathology and Dr. Roberto Terzaghi as *privat-docent* of Dermatology.—*Tübingen:* Dr. Johann Jacobj of Göttingen has been appointed to the chair of Pharmacology and Dr. A. Mayer has been recognised as *privat-docent* of Midwifery and Gynæcology.

MEDICAL SOCIETY OF LONDON.—The 135th anniversary dinner of the Medical Society of London was held at the Whitehall Rooms of the Hôtel Métropole, London, on March 11th, the President, Dr. J. Kingston Fowler, being in the chair. Covers were laid for over 130 guests and the proceedings were marked with much enthusiasm. On the right of the chair were seated Prince Francis of Teck, Sir Thomas Barlow (President of the Clinical Section of the Royal Society of Medicine), Mr. R. Marcus Gunn (President of the Ophthalmological Society), Dr. J. B. Ball (President of the Laryngological Section of the Royal Society of Medicine), Sir Anderson Critchett, Sir Felix Semon, Sir Edgcombe Venning, Dr. F. de Havilland Hall, and Mr. A. Pearce Gould. To the left of the chair were Lord Montagu of Beaulieu, Professor W. Osler, Mr. D'Arcy Power (President of the Harveian Society), Dr. C. E. Beevor (President of the Neurological Section of the Royal Society of Medicine), Dr. H. R. Spencer (President of the Obstetrical Section of the Royal Society of Medicine), and Dr. R. J. Probyn-Williams (President of the Society of Anæsthetists). The Chairman, in proposing the toast of "The Medical Society of London," said that the society still retained all its original vitality; the dire misfortune which some had foretold would happen to it in consequence of a certain amalgamation of societies had not occurred. The members of the society now numbered nearly 800 and the attendances at the meetings were most satisfactory. Some of the distinguished Fellows who had resigned by reason of certain changes in other societies had since rejoined the Medical Society. Mr. Edmund Owen in a witty speech proposed the toast of "The Guests and Kindred Societies." Sir Thomas Barlow, who replied to the toast, said that all the societies were of one kith and kin, working together for the honour of the medical profession. They must all admit the premier position of the Medical Society and must acknowledge that it had deserved well of the profession, for in season and out of season it had worked for the unity of the medical profession. Professor Osler, who also replied, referred to the literary treasures contained in the library of the Medical Society of London. He suggested that the diary of the Rev. John Ward should be published, and mentioned that it recorded a meeting of Shakespeare, Ben Jonson, and Drayton when Shakespeare took too much wine and afterwards contracted a fever from which he died. Mr. Pearce Gould proposed the toast of "The President" which was suitably acknowledged, and the proceedings terminated.

SUSSEX COUNTY HOSPITAL.—We have received from Dr. F. G. Bushnell and Dr. A. W. Anderson a summary of the recent work done in the pathological department (the Stephen Ralli Memorial) of this hospital, from which we extract the following particulars. Between August 31st, 1907, and Jan. 31st, 1908, 482 examinations have been made, of which 177 were histological, 20 chemical, 186 bacteriological, and 99 microscopical. 675 media tubes were inoculated and amongst other interesting work tubercle bacilli were found in pleural effusions and the bacillus typhosus was isolated from typhoid dejecta. The parasites which were identified included bilharzia hæmatobia, echinococcus cysts, and spirochæta pallida. The opsonic index was repeatedly estimated in 38 cases and seven bacterial vaccines were prepared. The observers state that "this treatment of staphylococcal infections, especially if subacute or chronic, is hopeful." Necropsies have been performed to the average number of 150 per annum, with the consequent bacteriological and histological investigations. The department has a branch for the assistance of private practice. Since the foundation of the memorial some 30 original contributions have been made to medical literature by research workers in the department. Dr. Anderson is shortly proceeding to Hamburg to demonstrate the technique of opsonic determination in the laboratory of Professor Unna.

ASSOCIATION OF CERTIFICATED DISPENSERS.—The annual meeting of this association was held in the Court-room of the Apothecaries' Hall, Blackfriars, E.C., on March 5th, and was well attended, most of those present being engaged in the Poor-law infirmaries and outdoor dispensaries, general and special hospitals, and general dispensaries in London. Mr. Montagu Smith (Lewisham Infirmary) presided. The minutes of the first annual meeting were read and confirmed. The treasurer, Mr. A. L. Anderson (Whitechapel Infirmary) presented the balance-sheet which, after meeting all liabilities, showed a favourable balance of £24 6*s.* 9*d.* The honorary secretary, Mr. A. Howell (Dalston Dispensary), presented the annual report, which stated that the association continued to prosper, the membership having increased by 50 compared with the preceding year, making a total of 225. The committee had kept in close touch with all matters affecting the interests of the members. A deputation had waited on the master and wardens of the Society of Apothecaries, pointing out several urgent and necessary reforms the adoption of which would greatly enhance the value of the assistant's certificate. The introduction of a Bill into Parliament on behalf of the assistants will stand over until it has been seen what can be done for them through the Government Poisons and Pharmacy Bill now before Parliament. The register kept by the honorary secretary had been the means of a large number securing temporary or permanent engagements and members were invited to make their holiday arrangements in good time in order to be provided with trustworthy locumtenents. It was then announced that if the necessary arrangements could be made a quarterly journal would be instituted and that the next general meeting would be of a social character to enable the members to meet and to know each other better. An appeal to those present on behalf of

an assistant in distressed circumstances pointed to the early founding of a benevolent fund. Votes of thanks to the master and wardens of the Apothecaries' Society and to the chairman, treasurer, secretary, local secretaries, and committee of the association concluded the business.

Dr. J. Charlton Briscoe has been elected assistant physician to King's College Hospital.

WATERED MILK.—At Gloucester police court on Feb. 27th the dairyman who had the contract for the supply of milk to the Gloucester Workhouse was fined £15 and costs for supplying milk adulterated with 17 per cent. of water to the inmates of that institution.

LITERARY INTELLIGENCE.—Messrs. Wm. Hodge and Co., Edinburgh and Glasgow, announce for publication on March 19th, as a new volume in their series of Notable Scottish Trials, an account of the "Ardlamont Case," which some 13 years ago was the general topic of conversation all over Britain.

DONATIONS AND BEQUESTS.—The late Mr. James Robert Turle by will bequeathed 100 Hudson's Bay shares of the value of about £7700 and £3000 New South Wales 3 per cent. of the value of about £2670 to the London (Royal Free Hospital) School of Medicine for Women; 100 Hudson's Bay shares and £3000 New Zealand 3½ per cent. to the Metropolitan Convalescent Institution; and £8400 London County Council 3 per cent. to the New Hospital for Women, Euston-road, N.W.

HEALTH AND SANITATION OF ST. VINCENT.—Mr. D. T. Tudor, acting administrator, in his report on the blue-book of the colony for the year 1906–07, just presented to Parliament, states that the estimated population in March, 1907, was 51,009. The births registered in 1906–07 were 1768, as against 1709 in 1905–06. Of these 1018, or 57·57 per cent., were illegitimate. Marriages were 141, a decrease of 55 on the previous year's figures, a decreased total which coincided with the increased percentage of illegitimacy. The total registered deaths were 929, as against 775 in 1905–06, being 18·2 per 1000 of the estimated population, a general rate of mortality which, after taking into account the deplorably high rate of infant mortality, must be regarded as very favourable. The infant mortality (infants under one year, exclusive of stillbirths) reached no less a total than 311, being 33·5 per cent. of the whole. The corresponding figures in 1905–06 were 169, or 21·8 per cent. The causes of death were thus tabulated: general diseases (including syphilis 119, tubercle 66, tetanus 37, and malarial fevers 18), 356; diseases of nervous system, 36; diseases of circulatory system, 25; diseases of respiratory system, 51; diseases of digestive system, 132; parasites, 47; age, 87; stillborn, 104; and other diseases, 91; total, 929. In the villages of the peasantry the ideas and methods in sanitary matters are elementary in the extreme. In the towns things are passable. The rainfall for the year 1906–07 was 104·45 inches. Rain fell on 292 days throughout the year. The mean monthly temperature was 78·3° F.; maximum for the year 90° F. in November; minimum, 63° F. in March.

MARYLEBONE HEALTH SOCIETY.—The second annual meeting of this society was held at the Town Hall, Marylebone-lane, W., on March 9th, Lord Robert Cecil being in the chair. He was supported by a number of residents in the borough. The report shows that satisfactory progress has been made during the year in the matter of "health visiting." As is well known, the work is largely directed to the prevention of infant mortality and the prevention of the spread of tuberculosis, and is effected by the personal visiting of the homes of the poor by ladies who are interested in the cause. It is obvious from the report that to engage the mothers' confidence is an important prelude to their conversion to a better sanitary ideal and this is attempted by a system of "tea-talks" which are less formal than ordinary lectures and are proving successful in their aim. The work is greatly strengthened by the "Infant Consultations" at the St. Marylebone Dispensary, at which 110 infants have attended during the year, of whom only three have died, and the general progress of the others has been good. There are 15 ladies voluntarily visiting the poor dwellings in Marylebone, and it is hoped that more will join them. The society has done equally good work with patients suffering from tuberculosis, visiting many whose condition had not been notified to the medical officer of health and instructing them in their personal hygiene. The committee, recording with regret the resignation of Mr. A. Wynter Blyth both as medical officer of health and chairman of the executive committee, pays a tribute to his invaluable help in the past.

THE MEDICAL OFFICER OF HEALTH OF BRIGHTON.—Dr. Duncan Forbes, medical officer of health of Cambridge, was on March 5th elected by the Brighton town council to succeed Dr. A. Newsholme as medical officer of health of the borough at a salary of £600 per annum. There were in all 37 applicants for the position.

HEREDITY AND MORAL RESPONSIBILITY.—A series of lectures will be delivered at St. Edward's House, 22, Great College-street, Westminster, on Fridays, March 13th, 20th, and 27th, and April 3rd and 10th, at 6 P.M., by the Rev. Father Waggett who is a trained biologist as well as a theologian. The subject of the lectures is Heredity or Natural Inheritance in Relation to Moral Responsibility and the Doctrine of Sin. The lectures are for men only and the question will be discussed from the physiological point of view and also from that of the different religious questions which appear to be involved.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Death Certificates (Charges) Bill.

A BILL designed "to amend the Births, Deaths, and Marriages Act, 1836, for the purpose of reducing the charges for death certificates in certain cases" has been introduced into the House of Commons by Mr. GILL. It has been read a first time. The measure has the formal support of Mr. SHACKLETON, Mr. BELL, Mr. THORNE, Mr. JAMES HASLAM, Mr. WILKIE, Mr. BOWERMAN, Mr. STEADMAN, Mr. BARNES, Mr. KELLEY, Mr. GEORGE ROBERTS, and Mr. WILLIAM WILSON.

Public Health Officers Bill.

Sir WALTER FOSTER'S Bill "to amend the law relating to the qualification and tenure of office of medical officers of health and for other purposes" has been printed. Sir Walter Foster states in the memorandum that the main objects of this Bill are to insure that none but those properly qualified shall be appointed as medical officers of health or sanitary inspectors, and to give all such officers and inspectors similar security in their tenure of office to that enjoyed by Poor-law medical officers and metropolitan medical officers of health. Clause 1 proposes to enact that after Sept. 29th, 1910, no person shall be appointed a medical officer of health unless he is a duly qualified medical practitioner, and unless (*a*) he is registered on the Medical Register as the holder of a diploma in sanitary science, public health, or State medicine under Section 21 of the Medical Act, 1886; or (*b*) he has for three consecutive years before the commencement of this Act served as a medical officer of health of a district or combination of districts with a population, according to the last published census, of not less than 50,000; or (*c*) the Local Government Board consents to his appointment.

It is further proposed that after the same date a person shall not be appointed a sanitary inspector unless (*a*) he is the holder of a certificate of such body as the Local Government Board may from time to time approve that he has by examination shown himself competent for the office; or (*b*) he has for three consecutive years before the commencement of this Act served as a sanitary inspector of a district or combination of districts with a population according to the last published census of not less than 20,000; or (*c*) the Local Government Board consents to his appointment.

As the law stands no qualification is required for a sanitary inspector except in London, and as a general rule a medical officer of health or sanitary inspector is appointed from year to year only and thus has no true security of tenure. Poor-law medical officers and metropolitan officers of health are not appointed for limited periods only, and are removeable only by, or with the consent of, the Local Government Board. Accordingly Clause 2 has been framed to amend the law with regard to the tenure of office. It runs as follows: "(1) A medical officer of health or sanitary inspector shall not hold office nor be appointed for a limited period only, and shall be removeable only subject to an appeal to the Local Government Board. (2) This section shall apply to every medical officer of health or sanitary inspector, whether appointed before or after the commencement of this Act, and notwithstanding any contract to the contrary."

Except in London, urban sanitary authorities have no legal power to appoint more than one sanitary inspector. It is desired to extend the metropolitan powers to all urban sanitary districts. In London the sanitary inspector is so called by law, but outside London the law names

him "inspector of nuisances." It is proposed that the London name shall be universally used. The promoters of the Bill do not propose to extend its provisions to Scotland or Ireland.

The Eyesight of Army Officers.

The relaxation of the regulations with respect to the wearing of glasses by Army officers is to be raised by a question in the House of Commons at an early date. The suggestion, of course, is that candidates for commissions who at present are disqualified by shortsightedness or astigmatism might be accepted if they were allowed to wear glasses on duty.

HOUSE OF LORDS.

THURSDAY, MARCH 5TH.

Poisons and Pharmacy Bill.

The Earl of CREWE moved the second reading of the Poisons and Pharmacy Bill. He said that the subject dealt with in the Bill was familiar to their lordships and a somewhat similar Bill had been introduced in the House of Commons in a recent session. Describing the scope of the present Bill he said that the first clause dealt with some additions that it was considered necessary to make to the Schedule of Poisons. The second clause enabled certain poisonous substances used for horticultural and agricultural purposes to be sold by dealers who were not chemists where need arose owing to the absence of qualified sellers. The third clause was also important, although non-controversial. It provided that where a chemist carried on business in more than one shop there should be a qualified chemist in charge of each shop. The fourth clause dealt with certain amendments with regard to the examination of the Pharmaceutical Society, and the fifth clause enabled regulations to be made in order to safeguard the sale and distribution of certain poisons commonly employed for domestic and industrial purposes. The Bill differed from the previous measure in the omission of two subjects on which controversy took place. This Bill did not apply to Ireland and he did not desire to trouble their lordships with the pros and cons of that subject now. The other controversial point was, What should be the powers of limited liability companies trading as chemists as regarded the titles which they could use? Ought they to be allowed to describe themselves by such titles as chemists and druggists? Considerable controversy arose in these directions and the Government had not included these matters in the Bill for this reason. There was a sharp line of demarcation of feeling upon both subjects—perhaps more strong in the House of Commons than in the House of Lords. He therefore would propose that if their lordships read the Bill a second time it should be referred to a joint committee of both Houses of Parliament in order that evidence might be taken on the two points to which he had alluded, and then, if the committee desired it, they might make recommendations on them to Parliament. He hoped that the Bill would come back from the joint committee in sufficient time to allow the very valuable uncontroversial clauses to become the law of the land this session, with the addition of such controversial matter as Parliament might think fit.

Lord ASHBOURNE (much of whose speech was indistinctly heard in the Press Gallery) was understood to say that the Bill involved considerations of very general interest and the course suggested by the noble Earl appeared to be convenient. It was possible that although certain matters to which the noble Earl had referred might not be controversial they might still be subjected to a reasonable amount of criticism. He went on to say that the power of addition to the Schedule of Poisons must always be given in such legislation. They could never stereotype the poisons at any particular period. He had no doubt that the Pharmacy Act of 1868 had been added to by Orders in Council just as under the Irish Act of 1870 it had been added to by the appropriate authorities in Ireland. He could not help thinking that the question of Irish legislation could not be left out of view in connexion with the Bill. They in Ireland would like to see the subject of poisons dealt with in a clear and intelligent way, and if there was an improvement in the law of England they would like to have some improvement in the law of Ireland. If it was not found convenient and desirable to adopt the whole Bill in the case of Ireland he could see no objection to saying that the same schedule of poisons which science had found was required for England should be applied to Ireland.

The Bill was then read a second time.

It was agreed, on the motion of the Earl of CREWE, to refer the Bill to a joint committee of both Houses of Parliament.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 4TH.

The Health of the Army.

Mr. HALDANE, in the course of his annual statement on the Army said that since last November the War Office had been paying threepence extra per day to the recruit. The recruit was at a growing stage and there was nothing on which attention had been more concentrated than the improvement of his spiritual, mental, and bodily condition. The result of that policy was that the class of recruits was undoubtedly improving. The consensus of the reports from the various districts was to this effect. The pay, the additional comforts, and the prospects of the soldier were having a marked effect. There were many indications to prove this but perhaps the most satisfactory was the decrease of wastage. Wastage might be comprised under the following heads: invaliding, men discharged within three months of their enlistment as not likely to make efficient soldiers, and men discharged for misconduct. In 1903–04 the number of invalids was 4973; in 1904–05, owing to the efforts of his predecessor, the number fell to 4226; in 1905–06 it was 3234; last year it dropped to 2894; and he had no doubt that this year it was again falling. Having dealt with the discharges for inefficiency and misconduct the right honourable gentleman went on to say that two years ago he was struck with the fact that there was a disease in the army which was known as "soldier's heart." It seemed that the heart of the soldier became more easily affected than the heart of any other class. He had therefore appointed a highly qualified committee of very distinguished medical men and physiologists together with practical officers to sit under the Director-General of the Army Medical Service and to inquire into the whole system of the physical training of the soldier. This committee traced "soldier's heart" to the old-fashioned system of doing exercises and the War Office had substituted for it the Danish system of training. The great advantage under the new conditions was that physical exercises were based not only on military requirements but on medical expert advice as to their effect. The report stated that the new exercises tended to develop the intelligence of the men, that they were capable of being performed without undue distress to them and were more interesting in their nature, and they would undoubtedly diminish admission to hospital for disordered action of the heart. So much for physical exercises. He was glad to say that under other heads things were improving very much. The Director-General of the Army Medical Service reported to him for the purposes of this statement that improvements had already begun to accrue from the steps which had been taken towards the prevention of disease and consequent inefficiency of the army. For instance, whereas the average yearly number of cases of Malta fever was for the years 1896–1905 over 150 in every 1000 men in the garrison, in 1907 the number had fallen to two in every 1000 men. This represented a saving of about 40,000 days' pay in a year to the British Government taking into account only the days spent in hospital and not the loss and expense entailed by death and invaliding. That was, he thought, a remarkable tribute to the achievements of science. This improvement, the report stated, might be directly attributed to scientific discoveries lately made in large part by officers of the department. As a result of the steps which had been taken in consequence of these discoveries the disease might be regarded as practically stamped out. He thought that he ought here to acknowledge how much they owed to this committee and also to the Royal Society for the deep interest it had taken in this matter. The committee also said: "We can also report for the year 1907 a considerable improvement in the health of the British Army in India in respect of three important diseases—enteric fever, venereal disease, and malarial fever. We regard this satisfactory state of affairs as a direct result of the increased attention paid by all the authorities concerned, both military and medical, to sanitation in cantonments. The improvement in venereal disease may be attributed to an increase in temperance and an improvement in general moral tone throughout the ranks of the army." He might say in connexion with the Army Medical Service that the War Department had this year opened a new medical college in London which would, he hoped, greatly facilitate the education of these most valuable officers of the army—the officers of the Army Medical Service. As regarded temperance he had given instructions that wherever it was possible an army tent might be placed at the disposal of the temperance organisation of a battalion and the War Office had taken every step it could to encourage the cause. The growth of temperance in the army was marked and satisfactory. There had been an improvement in dining arrangements and in many other things which conduced to the well-being of the men. The right honourable gentleman then proceeded to deal with other topics.

In the course of subsequent discussion Mr. SEDDON said that unless he was wrongly informed the decrease in venereal disease in the army was not in fact what it was represented to be. He therefore thought that it would be a wise protection if the medical inspection of the soldiers, especially in large towns, was made more minute than it was at the present time.

THURSDAY, MARCH 5TH.

Royal Territorial Medical Corps.

Sir FRANCIS POWELL asked the Secretary of State for War whether Volunteer surgeons on enlistment in the new Territorial forces would cease to be attached to their present regiments; whether they would be gazetted to a Royal Territorial Medical Corps and be required to wear the uniform of such corps; whether the compound title or rank would be abolished; whether the senior medical officer would, if efficient, be appointed brigade surgeon; and if so, while holding the appointment, whether he would be seconded from his regiment.—Mr. HALDANE replied: Medical officers of the Volunteers will have the option of transferring to the Royal Territorial Medical Corps or of remaining regimental officers. Those who transfer will be permitted to retain the uniform of their former unit until worn out. The compound title will be abolished in the case of those who join the Territorial Medical Corps. The appointment of brigade surgeon in the Territorial Force will lapse as the Territorial Force will be organised on the same basis as the regular army, in which such appointment does not exist.

Medical Inspection in Voluntary Schools.

Sir FRANCIS POWELL asked the President of the Board of Education whether, under the proposals of the Government, the cost of the medical inspection of children in voluntary schools would be defrayed from the same sources and administered under the same regulations as in the case of provided schools.—Mr. MCKENNA answered: Yes, sir.

St. John and St. Andrew Ambulance Lectures.

Major ANSTRUTHER-GRAY asked the President of the Board of Trade whether Scotch candidates under St. Andrew Ambulance for masters' and mates' first-aid certificates must attend eight lectures out of 12, while the English candidates under St. John Ambulance had to attend only four and five lectures; and whether, seeing that this system involved more time, trouble, and expense to the Scotch candidate than was deemed necessary for the English candidate, he would take steps to make the two courses equal.—Mr. KEARLEY (Parliamentary Secretary to the Board of Trade) replied: The St. John Association requires a minimum of four lectures of two hours' duration; the St Andrew a minimum of eight lectures of one and a half hours' duration. The expense under the St. John varies from about 12*s.* 6*d.* to 17*s.* 6*d.*, that under the St. Andrew is fixed at £1 1*s.* We have no power to compel either of these associations to vary its course.

The Investigation of Non-fatal Accidents.

Mr. ARTHUR HENDERSON asked the Secretary of State for the Home Department what number or percentage of the 123,230 non-fatal accidents reported in 1907 were made the subject of special investigation by factory inspectors.—Mr. GLADSTONE answered The information asked for by the honourable Member is not available and could

only be obtained by a laborious examination of the district records. I may explain, however, that all accidents due to power machinery and other special causes, about one-third of the total number, are investigated on the spot by the certifying surgeon. The surgeon reports to the inspector who then decides whether a further inquiry on his part is necessary. A vast number of the reported accidents are of a trivial character, and even if an investigation of each were possible it could seldom, from the nature of most of them, result in any preventive measures being taken.

Beri-beri on Merchant Vessels.

Mr. G. J. COOPER asked the President of the Board of Trade whether any scientific inquiry was being made by the Board into the cause of beri-beri; and, if not, whether he would consider the advisability of making a grant either to the Royal Society or the School of Tropical Medicine, to be expended in experimental research to discover the specific organism or toxin causing this disease.—Mr. KEARLEY replied (by written answer): The Board of Trade has been in communication with the Royal College of Physicians of London on the subject of beri-beri on board merchant ships and the matter is now before a special committee of Fellows of the College. On receipt of the committee's report the Board of Trade will consider whether any, and if so, what further steps should be taken.

Mr. COOPER further asked whether, as deficiency of nitrogenous food, overcrowding, and defective sanitation were conditions which, if combined, had been found favourable to the development of beri-beri, he would consider the advisability, when directing inquiries into the deaths from this disease of Chinese or Indian lascars on British ships, that these conditions should be reported upon as well as the adequacy and cost of the food supplied daily.—Mr. KEARLEY answered: Yes, sir; the suggestion made in my honourable friend's question shall be borne in mind.

The Supply of Milk in London.

The London County Council (General Powers) Bill was read a second time.

Mr. COURTHOPE then moved that an instruction should be given to the committee which would deal with the Bill that all clauses dealing with the milk-supply except the model milk clauses should be struck out of the Bill. He said that in making this motion he was acting on behalf of the Central Chamber of Agriculture and other bodies. There must be uniformity of local legislation, and in order to secure that uniformity they must move on the basis of model milk clauses, for the reason that they had already been inserted in a hundred private Acts, including those of all the London boroughs. Some other authorities had other clauses dealing with the subject of milk-supply. Power of inspection outside their own area had been given to local authorities, and it was that jurisdiction outside their own area which had caused great inconvenience to the agricultural community. At first it was thought that the purity of the milk-supply could be secured by enforcing sanitary conditions in the cowsheds and dairies. However, the powers under the Dairies, Cowsheds, and Milkshops Order of 1899 had not been found to be sufficient. This Bill sought to place on the farmer the whole responsibility for the state of the milk on its arrival at the place to which it was consigned. It would be said on behalf of the County Council that the impurity took the form of cow-dung and for that the agriculturists were responsible, but tobacco pipes, tobacco, and tea leaves were also found in the milk. The milk churns were often left open at the London termini, where the milk became polluted, and where there was a good deal of thieving of the milk and consequent adulteration. Agriculturists reasonably objected to being burdened with the responsibility for these things. The railway companies had refused to accept any responsibility. The agricultural community had no wish to avoid inspection. The dairyman was already responsible to the local authority in his area and if this Bill were passed he would be made responsible to the London County Council. He admitted that the position of London, into which 50,000,000 or 60,000,000 gallons of milk were brought every year, was unique. However, the President of the Local Government Board had promised legislation on the subject this year and there was therefore all the more reason for resisting piecemeal legislation now.

Mr. HICKS-BEACH seconded the motion.

Mr. GUINNESS said that the London County Council, being unable to obtain an assurance from the President of the Local Government Board that he would introduce a general measure dealing with this question, had felt that it was necessary to propose an extension of the model clauses. If the right honourable gentleman would give an assurance that he would introduce legislation which would insure a supply of pure milk and would also take into consideration the special position of London, the County Council would be relieved of the necessity of proposing special legislation. The County Council held that the model clauses did not go far enough. It was not sufficient to check the supply of tuberculous milk. They wanted also to keep out dirty milk. They approved of the machinery of the model clauses but sought to extend their application. In order to insure a cheap supply the Council was anxious not to throw any undue burden on the local authorities and therefore they had kept the whole power of inspection in the hands of the County Council. They did not propose to take any inquisitorial powers and they felt certain that no clean farmer would be penalised in the least by their clauses. A large portion of the population of London had to depend upon small shops and under present conditions that supply was very insanitary. The state of affairs now existing in London was very dangerous. In Finsbury it was found that 32 per cent. of the samples of milk which had been examined contained pus and 40 per cent. contained dirt. Mr. A. E. Harris, medical officer of health of Islington, last year examined the contents of 34 successive churns of milk at Finsbury Park station and found that no fewer than 33 contained excremental matter. Under present conditions it was quite impossible to discover where contaminated milk came from and so the farmer got off with impunity. It was no use, he submitted, that the metropolitan borough councils should be enabled to proceed against the retailers of milk in London unless some authority—and the London County Council seemed to be the only possible one—was enabled to go to the railway stations and find out what milk was dangerous before it was distributed. The trouble of this dirty milk arose from the fact that in a large number of districts the Dairies, Cowsheds, and Milkshops Orders were not in force. No fewer than 324 sanitary authorities had made no regulations and in other cases no enforcement was insisted upon. The reports of medical officers of health in different counties showed the dangerous condition of things which existed and the filthy and revolting conditions of the cowsheds in many places. A number of the sanitary authorities from whose districts milk was sent to London did not seem to care how many people in the metropolis had their health affected by a poisonous supply. The infantile mortality in London, he contended, was fostered by a contaminated milk-supply, and in the interests of a sanitary milk-supply it ought to be possible for the local authorities in London to step in and to take the place of those sanitary authorities in the country who neglected their duties.

Mr. BURNS (the President of the Local Government Board) said that in addition to the London County Council Bill two other Bills (the Widnes Corporation Bill and the Blackburn Corporation Bill) dealt more or less with the same subject in a similar way. As they were down on the notice paper for consideration that evening he would express the views of the Government upon all three together. The Government took no exception to the instruction moved by the honourable Member for Rye (Mr. Courthope) although it did not identify itself with all the objects and motives which might have influenced the honourable Member and the interests on whose behalf he acted. The time had come when they ought to have a larger, better, and cleaner milk-supply, especially in the interests of the children in large towns. He accordingly intended to bring in a general Bill this session dealing with the milk-supply of the country. The question had become a national one. He believed that the public could be protected without handicapping the farmer or harassing the dairyman and that the interests of the progressive farmer and the clean and enterprising dairyman should lead them to coöperate in insuring for their trade cleanly and scientific conditions. The Bill which he proposed to bring in would seek to secure cleanliness, purity, and reliability in the milk-supply and to remove the evils of overlapping jurisdiction and would deal with the question of compensation in certain cases, with the conditions of valuation, the price to be paid, and a number of other matters. He believed that there was an increasing recognition of the value of milk as an article of diet both for young and old, but he feared that the speech of the honourable Member for Bury St. Edmunds (Mr. Guinness) was rather of a character to make people say with Eccles in *Caste*, "Milk, milk; I would rather have a drop of cold refreshing gin." The Government would take into consideration the need of London for exceptional treatment on account of its exceptional character and size. The milk-supply of London could not be satisfactorily controlled unless the central body had greater control than it now had, not only over milk but over a number of things. He would assure the Members for Blackburn and Widnes and the Members who represented the London County Council that nearly all that each of them sought would be embodied in the Government Bill along with other matters which they had not mentioned. He hoped the motion of the Member for Rye (Mr. Courthope) would be carried without a division.

Mr. HARMOOD-BANNER was afraid that the right honourable gentleman had squared the agricultural interests to the prejudice of the interests of localities.

Mr. BURNS: You will not say so when you see the Bill.

The motion for the instruction was agreed to without a division.

When the Blackburn and Widnes Corporation Bills had been read a second time instructions to the committee were also agreed to striking out all clauses dealing with milk-supply other than the model milk clauses.

MONDAY, MARCH 9TH.

Phosphorus in Matches.

Mr. T. P. O'CONNOR asked the Secretary of State for the Home Department whether, in view of the deaths from poisoning of women and children from consuming phosphorus taken from match heads, he would state whether any record of these cases was kept; and, if so, how many deaths had occurred during the year 1907 from this cause.—Mr. GLADSTONE answered: The deaths returned by coroners' juries as resulting from poisoning by phosphorus from matches are shown in the Registrar-General's annual reports. The figures for 1907 have not yet been ascertained. The Registrar-General informs me that in 1906 six deaths were attributed to poisoning from phosphorus matches, five of the victims being children under three years of age and one a girl of 12 years.

Mr. T. P. O'CONNOR further asked whether the right honourable gentleman had any information to the effect that the sale of phosphorus matches was strictly prohibited in Norway and Sweden but that the manufacture in those countries was still permitted for export to this country.—Mr. GLADSTONE replied: My information is that the sale of lucifer matches containing white or yellow phosphorus is forbidden in the countries mentioned, but not the manufacture for export.

Legislation in regard to Milk.

Mr. WATT asked the President of the Local Government Board whether in the forthcoming legislation dealing with milk-supplies the Bill will include Scotland.—Mr. BURNS answered: This point has not at present been settled. It will be a matter for the Secretary for Scotland.

Mr. WATT asked the Secretary for Scotland whether he would introduce some system of inspection which would enable the large towns of Scotland to inspect the farms from which their milk-supplies came.—Mr. SINCLAIR said, in reply: I cannot give my honourable friend any assurance at present as to the attitude of the Government, but he is aware that a Bill dealing with this question has been introduced by a private member and it is hoped that some opportunity for discussion may arise which may help to mature it.

Vaccination of Borough Employees in Hampstead.

Mr. BOWERMAN asked the President of the Local Government Board whether he could say how many of the employees of the Hampstead borough council had been vaccinated within the past six years; whether he was aware that the fee charged for each employee was 5s., and that they were vaccinated by a doctor who was, and had been, a member of the council at the time; and whether, seeing that the council employed a member of its own body to do this work, he proposed to take any, and what, action in the matter.—Mr. BURNS replied: I am informed that the borough council have never made any condition as to the vaccination of their employees and have no record of the number vaccinated during the last six years. I find, however, that during the last epidemic of small-pox in 1901 one of the employees who had not been vaccinated died from the disease, and hence three of the committees of the borough council thought it desirable that the

staff of their respective departments should be vaccinated. This opinion was conveyed to the employees in these departments, but it was stated that the committee in no way desired to compel them to be vaccinated against their own wishes. 33 persons as a result had been vaccinated, eight by the public vaccinator and 25 by the deputy public vaccinator. The deputy public vaccinator was, and is, a member of the borough council, but he was not employed by the borough council in this matter, nor has he received from them any fees in respect of it. The employees were at liberty to go to any medical man they pleased, and they went to the public vaccinator or his deputy, because by so doing they were vaccinated free of charge. The usual fee in respect of the operation would be paid by the board of guardians of the parish.

The Ventilation of the House.

Sir PHILIP MAGNUS asked the Prime Minister whether, having regard to the prevalence of influenza among Members of the House of Commons, he would reconsider the advisableness of a daily adjournment of the House for a half hour between the hours of seven and nine in the evening with a view to the better ventilation of the House by the admission of fresh air through opened windows.—Mr. HARCOURT (the First Commissioner of Works) in the absence of Sir Henry Campbell-Bannerman replied: The opening of windows would be a distinct hindrance to the efficient ventilation under the new and improved system. The absence of members might be of advantage at any period of the sitting, but during their presence the whole air of the chamber is changed every five minutes and it is possible, though not comfortable, to do this in three minutes. The more rapid change is invariably effected during divisions when both members and air are in movement.

Sir PHILIP MAGNUS: May I ask the right honourable gentleman whether he has tried the experiment of flushing the chamber with fresh air for a quarter of an hour or 20 minutes during late sittings of the House.

Mr. HARCOURT: Yes, the experiment has been tried but not successfully.

Sir PHILIP MAGNUS: Will the right honourable gentleman say what were the effects? Was there more or less influenza?

Mr. HARCOURT: The effect of opening the windows to admit fresh air was to prevent air being delivered through the floor.

Sir PHILIP MAGNUS: Does the right honourable gentleman consider it a disadvantage that fresh air should be received through the windows rather than through the matting of the floor over which scores of Members tread with dirty boots?

Mr. HARCOURT: The air admitted by the windows is received only by the fans in the ceiling and not by Members on the floor of the House.

The Royal Navy Medical Service.

In the course of the discussion on the Navy Estimates

Mr. MITCHELL-THOMSON said that for some time there had been a complaint about the position, prospects, and pay of the Navy Medical Service. It was time that the Admiralty had inquired to see whether if some revision of the scale of pay was carried out it would have the effect of attracting to the service more higher graduates from the medical schools of the country. He also wanted to draw attention to the importance of giving Navy medical officers an opportunity of studying in the hospitals on shore. He expressed the hope that both these matters would be seriously considered.

Mr. LAMBERT (Civil Lord of the Admiralty) at a later stage of the debate said that of course the Admiralty would most carefully consider these suggestions with regard to the Navy Medical Service.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BEALE, PEYTON T. B., F.R.C.S. Eng., has been appointed Surgeon to the City Dispensary.

BRISCOE, J. CHARLTON, M.D. Lond., has been appointed Assistant Physician to King's College Hospital.

BROWNE-MASON, JOHN THOMAS, L.D.S. Eng., has been appointed Honorary Consulting Dental Surgeon to the Exeter Dental Hospital.

CARR, HAMPDEN, L.K.Q.C.P. Irel., L.R.C.S. Irel., has been appointed Honorary Medical Officer at the Port Pirie Hospital, South Australia.

CROSS, F. G., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Kingston District of the county of Surrey.

DALBY, AUGUSTUS WILLIAM, L.R.C.P. & S. Edin., has been re-appointed Medical Officer of Health for the Frome (Somerset) Rural District.

EAGER, RICHARD, M.B. Aberd., has been appointed Senior Assistant Medical Officer at the Devon County Asylum, Exminster

GIBSON, J. A., M.D. Edin., has been appointed by the Isle of Wight County Education Committee as Medical Inspector of Schools for the County.

HALL, GEORGE, M.D. Lond., B.Sc. Dunelm, M.R.C.P. Lond., has been appointed Honorary Assistant Physician to the Royal Victoria Infirmary, Newcastle-on-Tyne.

HUDSON, BERNARD, M.D. Cantab., M.R.C.P. Lond., has been appointed Assistant Physician to the Royal Hospital for Diseases of the Chest, City-road, E.C.

JAQUES, ROBERT, F.R.C.S. Eng., has been appointed Honorary Surgeon to the Plymouth Royal Eye Infirmary.

JEWESBURY, REGINALD C., M.B. Oxon., M.R.C.P. Lond., has been appointed Assistant Physician to Charing Cross Hospital.

JOHNSTON, W. L., M.B., Ch.B. Edin., has been appointed Resident House Surgeon at the Royal Infirmary, Stirling.

MONTESOLE, M. HERSCHEL, L.R.C.P. Lond., M.R.C.S., has been appointed Junior House Surgeon at the Western General Dispensary, Marylebone-road, N.W.

PARKIN, ALFRED, M.D. Durh., F.R.C.S. Eng., has been appointed Honorary Assistant Physician to the Royal Victoria Infirmary, Newcastle-on-Tyne.

RIGGALL, ROBERT MARMADUKE, M.R.C.S., L.R.C.P., has been appointed Second Assistant Medical Officer at the Devon County Asylum, Exminster.

ROCYN-JONES, DAVID THOMAS, M.B., C.M. Edin., D.P.H. Oxon., has been appointed Medical Officer of Health and Medical Inspector of Schools for the County of Monmouthshire.

SILVER, CLIFFORD MARKING, L.D.S. Eng., has been appointed Dental Surgeon to the Exeter Dental Hospital.

WATKINS, JOHN G., L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer by the Taunton Board of Guardians.

WHARTON, JOHN, M.D., B.C. Cantab., has been appointed Honorary Assistant Surgeon to the Manchester Royal Eye Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BANGOR, CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House Surgeon. Salary £80 per annum, rising to £100, with board, washing, and lodging.

BIRMINGHAM, JAFFRAY BRANCH OF THE GENERAL HOSPITAL, Gravelly Hill.—Resident Medical and Surgical Officer. Salary £150 per annum, with board, residence, and washing.

BIRMINGHAM, QUEEN'S HOSPITAL.—Two House Physicians for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

BOURNEMOUTH. ROYAL NATIONAL SANATORIUM FOR CONSUMPTION AND DISEASES OF THE CHEST.—Resident Medical Officer. Salary £10 per month, with board, residence, and washing.

BRADFORD ROYAL INFIRMARY.—House Physician and House Surgeon, unmarried. Salaries £100 per annum, with board and residence.

BUCKS COUNTY COUNCIL.—Medical Officer of Health. Salary 50 guineas per annum and fees.

BUCKS COUNTY EDUCATION COMMITTEE.—Education Medical Officer. Salary £300 per annum, with expenses.

BURY, CORPORATION OF.—Assistant Medical Officer of Health and School Medical Officer. Salary £150 per annum.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer, unmarried. Salary £140 per annum, with board, lodging, washing, and attendance.

CARDIFF INFIRMARY (GENERAL HOSPITAL).—House Physician for six months. Salary £30, with board, residence, and laundry.

CARLISLE, CITY OF.—Medical Officer of Health. Salary £500 per annum.

CHORLTON-UPON-MEDLOCK DISPENSARY, Manchester.—Honorary Medical Officer.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £50 per annum, with board, washing, and residence. Also Physician to Out-patients.

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry.—Junior House Surgeon. Salary at rate of £60 per annum, with rooms, board, washing, and attendance.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—House Surgeon and Assistant House Surgeon. Salaries £80 and £40 respectively, with board and lodging.

DUNFERMLINE, CARNEGIE DUNFERMLINE TRUSTEES.—Assistant Medical Officer (female). Salary £200 per annum.

ECCLES AND PATRICROFT HOSPITAL.—House Surgeon, unmarried. Salary £70 per annum, with board and washing.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—Eight Clinical Assistants.

EXMINSTER, DEVON COUNTY ASYLUM.—Third Assistant Medical Officer. Salary £140, rising to £150, with board, lodging, and washing.

FINCHLEY URBAN DISTRICT COUNCIL.—Medical Officer of Health and Superintendent of the Hospital. Salary £300 per annum, rising to £400.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, N.—Senior House Surgeon, Senior House Physician, Two Junior House Surgeons, and One Junior House Physician. Salary of Senior Officers at rate of £60 per annum, and of Junior Officers at £30 per annum, with board, lodging, and washing.

HAMPSTEAD GENERAL HOSPITAL, WITH WHICH IS AMALGAMATED THE NORTH-WEST LONDON HOSPITAL.—Three Physicians and two Surgeons in charge of the Out-patients' Department in Kentish Town. Also two Anæsthetists at the Hampstead Hospital.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida Vale, W.—Resident Medical Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon for six months. Salary £20. Also House Physician for eight months. Salary 25 guineas. Also Assistant Casualty Medical Officer for eight months. Salary 25 guineas. All with board and residence.

IPSWICH, BOROUGH OF.—Assistant Medical Officer of Health. Salary at rate of £150 per annum.

KENT COUNTY COUNCIL.—Medical Officer of Health. Salary £800 per annum, with expenses.

LEAMINGTON, WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and apartments.

LEICESTER INFIRMARY.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

LINCOLN UNION.—Medical Officer. Salary £100 per annum and fees.

LISCARD, VICTORIA CENTRAL HOSPITAL.—Honorary Assistant Anæsthetist.

LIVERPOOL DISPENSARIES.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

LOWESTOFT HOSPITAL.—House Surgeon, unmarried. Salary at rate of £80 per annum, with board, lodging, and washing.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60, with board, lodging, and washing.

MANCHESTER, UNIVERSITY OF.—Senior Demonstrator in Physiology. Salary £150, rising to £200 per annum.

MERTHYR TYDFIL, BOROUGH OF.—Medical Inspector of School Children. Salary £200, advancing to £300.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, and washing.

MOUNTAIN ASH URBAN DISTRICT EDUCATION COMMITTEE.—School Medical Inspector. Salary £250 per annum.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.—Registrar. Salary £150 per annum.

NEWCASTLE-UPON-TYNE DISPENSARY.—Resident Medical Officer. Salary £250, with residence.

NEW HOSPITAL FOR WOMEN, Euston-road.—Three Senior Assistants (females).

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary £80 per annum, with rooms, commons, and washing.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Senior Resident Medical Officer. Salary £100 per annum, with board, residence, and washing. Also Resident House Surgeon for six months. Board, &c., provided.

ROYAL NATIONAL ORTHOPÆDIC HOSPITAL, Great Portland-street, W.—House Surgeon, unmarried. Salary £250 per annum.

ROYAL NAVY, MEDICAL DEPARTMENT.—Examination for not less than 15 Commissions.

ST. MARY'S HOSPITAL, PADDINGTON, W.—Medical Officer in Charge of the X Ray Department. Salary £100 per annum.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Surgeon, also House Physician. Salaries £100 per annum respectively, with rooms, board, and washing.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £90 per annum, with residence, board, and washing.

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House Surgeon. Salary £82 per annum, with board, residence, and laundry.

STOCKTON-ON-TEES EDUCATION COMMITTEE.—Assistant to the Medical Inspector of School Children. Salary £200 per annum.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

TORQUAY EDUCATION AUTHORITY.—Assistant School Medical Officer. Salary £150 per annum, rising to £210.

TORQUAY, TORBAY HOSPITAL.—House Surgeon. Salary £100 per annum, with residence, board, and washing.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL AND POST GRADUATE COLLEGE, Hammersmith-road, W.—Clinical Assistants.

WESTMINSTER GENERAL DISPENSARY.—Resident Medical Officer. Salary at rate of £120 per annum, with rooms, gas, coal, and attendance.

WORCESTERSHIRE EDUCATION COMMITTEE.—Inspector of School Children and Midwives. Salary £400 per annum, with travelling expenses. Also Two Assistant Inspectors. Salary £175 per annum, with travelling expenses.

WORTHING, BOROUGH OF, AND RURAL DISTRICT OF EAST PRESTON, COMBINED SANITARY DISTRICT.—Medical Officer of Health. Salary £500 per annum.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Killane, in the county of Wexford; at Drumcollogher, in the county of Limerick; at Kingscliffe in the county of Northampton; at Ederney, in the county of Fermanagh; at Castletown, in the county of Caithness; at Carrickmacross, in the county of Monaghan; at Haddenham, in the county of Cambridge; and at Week St. Mary, in the county of Cornwall.

Births, Marriages, and Deaths.

BIRTHS.

ATKINSON.—On March 1st, at Church-street, Saffron Walden, the wife of Dr. H. W. Atkinson, of a daughter.

BUTLER.—On March 7th, at Romagna House, Otley, Yorkshire, the wife of Somerset E. M. Butler, L.R.C.P. & S. Irel., of a daughter.

HEMMING.—On March 6th, at Bishop's Waltham, Hants, the wife of Claude P. Hemming, M.R.C.S., L.S.A., of a daughter.

HOBBS.—On March 6th, at Burke House, Beaconsfield, the wife of Geoffrey Charlstrom Hobbs, L.R.C.P., L.S.A., of a daughter.

DEATHS.

BICKERSTETH.—On March 7th, at 2 Rodney-street, Liverpool, Edward Robert Bickersteth, F.R.C.S., in his 80th year.

DOWSON.—On March 9th, at the residence of her son, Dry Street Farm, Langdon Hills, Essex, Elizabeth Martha, widow of the late Edward Dowson, M.D., of 117, Park-street, Grosvenor-square, aged 75.

GRANGER.—At 2, Grosvenor-terrace, Glasgow, on March 8th, Maria Sophia Carmichael, widow of the late Dr. John Ross Granger, in her 60th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE PUBLIC TELEPHONE CALL OFFICE AS A FACTOR IN THE SPREAD OF DISEASE.

UNDER the above heading we published an annotation in our issue of July 27th, 1907, p. 240, drawing attention to the dangers which might arise from dirty telephone apparatus and call boxes. A correspondent has sent us a letter containing a number of concrete instances in which he alleges that he has found dirty instruments. We do not publish the full addresses but we shall be happy to send them to the National Telephone Company. Our correspondent says:—

> Being obliged to make continual use of public call offices, the writer has felt on several occasions that the dirty condition of the apparatus made its use extremely risky. A few instances of unsatisfactory conditions may serve as examples. 1. Call box, E.C.: instrument very dirty; box apparently never swept out judging by the collection of rubbish in it, including about sixpence in coppers, which could be seen on striking a match. 2. Call office, —— station: Apparatus very dirty; mouthpieces dripping condensation from breath of previous users; smell disgusting. 3. Call office at shop, ——, Kent: Apparatus dirty and dripping condensation as above. 4. Call offices, —— station, platform: Apparatus dirty; smell so disgusting that the writer went elsewhere. 5. Call office, —— road, N.E.: Instrument dirty; smell disgusting. 6. Call box, —— station: As above. On the occasions when the writer has used call offices at the following places the condition of the apparatus was unsatisfactory, the vulcanite mouthpieces frequently containing débris with a more or less bad odour: Chatham, Deal, Croydon, Harlesden, Kilburn, Lewisham, Catford, Beckenham, Bromley (Kent), Southampton, Bournemouth, and London, W., London, S.W., and London, E.C., many cases. Only two instances are in mind where an attempt was made to keep the apparatus really clean and to disinfect the call box, this out of a series of several thousand calls. A notice with regard to this unsatisfactory state of affairs in your valuable paper might lead to an improvement.

THE PRESCRIBING OPTICIAN.

A CORRESPONDENT has forwarded to us a little pamphlet entitled "A Few Facts You Ought to Know." This is issued by S. Leighton and Son, spectacle specialists, New Market Entrance, Lancaster. Messrs. Leighton and Son commence by saying: "It is a curious fact that whilst most people will call in a doctor when they experience the least pain or ache, or consult a lawyer when in doubt on a trivial legal matter, they will defer seeking the services of an optician until the intensity of the eye strain becomes unbearable." From this sentence it is evident that Messrs. Leighton consider that an optician is the proper person to consult for eye strain. The extent of Messrs. Leighton's knowledge of ophthalmic optics may be gauged from the following sentence: "Long sight is that condition of vision when the rays come to a focus in front of the retina." After this all the flummery about the ophthalmometer, the ophthalmoscope, and the "retinoscope" may be discounted, but no doubt many persons into whose hands Messrs. Leighton's pamphlet may fall will believe that they are competent to treat errors of refraction.

LAY MEDICINE.

WE extract the following gem from our contemporary the *Star* of March 10th. The credulity of many persons concerning their own or other people's health is amazing and the confusion between sarsaparilla and sal prunella is delightful.

> **A Sure Cure for Quinsey when at the Point of Breaking.**—First suck a piece of sarsaparilla ball, obtainable at any chemist's. Then take a pound of ordinary currants and make two poultices. Place one on the throat as hot as possible, and when that is cold put on the other. This I know is a sure cure for quinsey, as I have tried it myself.

THE THOMPSON POCKET ELECTRIC LAMP.

WE have not seen a more compact or smaller secondary battery than that which is contained in this pocket electric lamp. Our measurements of the cell were as follows: height 2¾ inches, width 1¾ inches, and depth ¾ inch. The weight of the complete apparatus is a little over half a pound (8¾ ounces). The cell contains the usual lead plates immersed in dilute sulphuric acid. The cell is further packed with an acid-proof absorbent material resembling glass wool so that the risk of spilling the acid is reduced to a minimum, and, in fact, the cell may be inverted without loss of acid This alone is a convenient feature of the lamp. A maximum charge gives from four to six hours' continuous light. The accumulators may be easily recharged from the main continuous current, a 5-candle-power lamp being used as a resistance on the 100-volt circuit and an 8-candle lamp on the 200-volt circuit. The light is remarkably bright and steady. Altogether the lamp is a decided improvement on the ordinary miniature searchlight lamps in which the energy is

derived from primary dry cells. It is most convenient and useful and the fact that it can easily be recharged is not the least recommendation about it. Considering its small size it is remarkably effective. We received a specimen lamp, which came through the post without injury, from Messrs. G. E. Wilson and Co., of 20, Cross-street, Manchester, and the price is 8s. 6d.

A COINCIDENCE IN INVENTION.

To the Editor of THE LANCET.

SIR,—In your issue of March 7th a communication is published from Mr. Seymour Stritch of Dublin upon a new pessary. May I venture to call your attention to a communication from me in your columns of Oct. 6th, 1900, p. 1020, upon the same subject? Mr. Stritch's pessary is merely mine in a very modified form; in essential features, ring on hinged stem, it is the same. As a matter of fact, and as the result of experience, I have discarded the "ring" pattern in favour of the "Hodge," and find that in every way it gives satisfaction to both patients and myself. Messrs. Krohne and Sesemann, 37, Duke-street, London, W., have made my instrument in considerable numbers since its first conception, and I am sure they will be pleased to show it at any time to Mr. Stritch—in both "ring" and "Hodge" patterns. I do not for a moment suggest that Mr. Stritch could either have seen my article, or the pessary itself, before offering his communication to your journal.

I am, Sir, yours faithfully,

Woodford Green, Essex, March 10th, 1908. HUGHES R. DAVIES.

"WON'T-LET-GO" CEMENT.

ACCORDING to our examination this is a carefully prepared gelatin cement and a practical trial convinced us of its effective adhesive qualities. It is very clean to use and is contained in a collapsible metal tube. The makers, Messrs. J. E. Morgan, of 63, Ludgate-hill, London, E.C., suggest its use by surgeons and in hospitals on account of its strength and antiseptic properties. We confirmed the presence in it of a pleasant antiseptic oil.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (18th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (19th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.)

FRIDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (21st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.—(*Pathological Section*). 8.30 P.M., Mr. S. G. Shattock: Specimens of the Larvæ of Kristalis Tenax passed by the Bowel. Mr. C. E. Walker: Enlargement of Hen's Comb produced by Injections of Testicle Extract. Dr. L. Barlow: The Relations of Endothelioma to other Forms of New Growth. With papers and demonstrations bearing on the subject by Mr. C. W. Rowntree, Mr. A. Leitch, and Dr. L. Courtauld.

THURSDAY.—(*Dermatological Section*). 5 P.M., Clinical Cases will be shown by Dr. J. H. Sequeira and others.

CHILD STUDY SOCIETY LONDON, Parkes Museum, Margaret-street, W.

THURSDAY.—8 P.M., Dr. F. C. Shrubsall: Anthropometry and Physical Development (illustrated by lantern slides).

ROYAL MICROSCOPICAL SOCIETY, 20, Hanover-square, W.

WEDNESDAY.—8 P.M., Mr. C. F. Rousselet: Exhibition of Mounted Specimens. Right Hon. Lord Avebury: On Seeds, with Special Reference to British Plants.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN, 11, Chandos street, Cavendish-square, W.

FRIDAY.—5 P.M., Dr. F. Langmead, Dr. P. Weber, Dr. C. Chapman, Dr. G. Carpenter, Dr. F. Parkinson, Mr. S. Stephenson, and others: Cases and Specimens.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 20, Hanover-square, W.

FRIDAY.—8.30 P.M., Mr. A. E. Shipley: The Relation of Entozoa to the Mucous Lining of the Alimentary Canal. Dr. W. T. Prout: (1) The Rôle of Filaria in the Production of Disease; (2) Note on an Unusual Cause of Dysenteric Diarrhœa in the Tropics; (3) exhibit of the Sword of a Sword Fish removed from a man who had been transfixed by it.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MONDAY.—5 P.M., Dr. F. A. Bainbridge: The Pathology of Acid Intoxication.

WEDNESDAY AND FRIDAY.—5 P.M., Mr. M. Greenwood: The Physiological and Pathological Effects which follow Exposure to Compressed Air.

(Arris and Gale Lectures.)

ROYAL COLLEGE OF PHYSICIANS, Pall Mall East.

TUESDAY AND THURSDAY.—5 P.M., Dr. H. French: The Influence of Pregnancy on certain Medical Diseases, and the Influence of certain Medical Diseases on Pregnancy. (Goulstonian Lectures.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. C. Fox: Clinique (Skin). 5.15 P.M., Lecture:—Dr. F. M. Sandwith: Bilharziasis.

TUESDAY.—4 P.M., Dr. H. Cautley: Clinique (Medical). 5.15 P.M., Lecture: Mr. F. Eve: Experiences and Observations in the Surgery of some Non-malignant Affections of the Stomach.

WEDNESDAY.—4 P.M., Mr. R. H. J. Swan: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. J. H. Thursfield: Post-Basal Meningitis.

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. L. Guthrie: Precocious Development.

FRIDAY.—4 P.M., Mr. R. Lake: Clinique (Ear).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith road, W.

MONDAY.—12 noon, Lecture:—Dr. Low: Pathological. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Ball: Diseases of the Tonsils (illustrated by lantern slides).

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12 noon: Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Ball: Diseases of the Tonsils (illustrated by lantern slides).

WEDNESDAY.—10 A.M., Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eye. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Practical Medicine.

THURSDAY.—12 noon, Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Hood: Arterio-Sclerosis.

SATURDAY.—10 A.M., Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eye. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Cliniques:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Throat, Nose, and Ear (Mr. H. W. Carson); X Ray (Dr. A. H. Pirie). 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinique:—10.30 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Surgical Operations (Mr. Carson). Cliniques:—Surgical Out-patient (Mr. Edmunds); Gynæcological (Dr. A. E. Giles).

WEDNESDAY.—Cliniques:—2.30 P.M., Medical Out-patient (Dr. Whipham); Dermatological (Dr. G. N. Meachen); Ophthalmological (Mr. R. P. Brooks).
THURSDAY.—2.30 P.M., Gynæcological Operations. (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting); Surgical Out-patient (Mr. Carson); X Ray (Dr. Pirie). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture-Demonstration:—Mr. H. Evans: Congenital Dislocation of the Hip-Joint.
FRIDAY.—10 A.M., Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks). 3 P.M., Medical In-patient (Dr. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2.15 P.M., Sir Dyce Duckworth: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. W. Turner: Surgery. 4 P.M., Dr. StClair Thomson: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical, 12 noon, Ear and Throat.
TUESDAY.—2.15 P.M., Dr. R. T. Hewlett: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.
WEDNESDAY.—2.15 P.M., Dr. F. Taylor: Medicine. 2.30 P.M., Operations. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical, 11 A.M., Eye.
THURSDAY.—2.15 P.M., Dr. G. Rankin: Medicine. 2.30 P.M., Operations. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical 12 noon, Ear and Throat. 2.15 P.M., Special Lecture:—Dr. Rankin: Chorea.
FRIDAY.—2.15 P.M., Dr. R. Bradford: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.
SATURDAY.—2.30 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.

MONDAY.—9 A.M., Operations (Mr. White). 2.30 P.M., In-patients—Medical (Dr. Beevor); Out-patients—Medical (Dr. Willcox), Surgical (Mr. Low), Eye (Mr. Morton and Mr. Coats).
TUESDAY.—2.30 P.M., In-patients—Medical (Dr. Beale), Throat and Ear (Mr. Waggett); Out-patients—Surgical (Mr. Edmunds), Throat and Ear (Mr. French); Operations (Mr. Beale).
WEDNESDAY.—2.30 P.M., In-patients—Surgical (Mr. Stabb); Out-patients—Medical (Dr. Horder), Gynæcological (Dr. Lockyer), Skin (Dr. Whitfield), Teeth (Mr. Baly); Operations (Mr. Stabb).
THURSDAY.—2.30 P.M., In-patients—Medical (Dr. Morison).
FRIDAY.—3.30 P.M., Lecture:—Dr. A. Morison: On Cardio-pulmonary Murmurs, their Diagnosis and Signification.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Lecture:—Dr. Collier: Torticollis and the Tics.
FRIDAY.—3.30 P.M., Lecture:—Dr. F. Buzzard: Acute Infection of Brain and Membranes.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Lecture:—Dr. M. Dockrell: On the Treatment of Skin Diseases.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.

WEDNESDAY.—4 P.M., Lecture:—Dr. Grey: Demonstration of X Ray Examination of Cases of Disease of the Chest.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.

THURSDAY.—4 P.M., Lecture:—Dr. Poynton: Rheumatism in Children under Five Years.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1907, which was completed with the issue of Dec. 28th, were given in THE LANCET of Jan. 4th, 1908.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1907 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 12th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Mar. 6	29·23	S.W.	0·22	91	52	37	45	45	Raining
,, 7	29·72	W.	0·07	57	46	41	39	42	Fine
,, 8	29·73	W.	0·02	84	56	41	46	46	Cloudy
,, 9	29·41	W.	0·05	80	49	43	43	46	Cloudy
,, 10	29·30	W.	0·04	81	50	41	42	45	Cloudy
,, 11	29·70	N.W.	0·04	76	47	41	40	42	Cloudy
,, 12	30·00	N.E.	...	62	44	38	38	40	Cloudy

During the week marked copies of the following newspapers have been received:—*Hartford Evening Post (U.S.A.), Liverpool Post, Preston Guardian, Tobacco Weekly Journal, Electricity, Evening News, Daily Dispatch, Westminster Gazette, Aberdeen Journal, Standard, Birmingham Daily Post, Faversham News, Newcastle Weekly Chronicle, Referee. Daily Telegraph, Aberdeen Journal, Birmingham Dispatch, Yorkshire Observer, School Guardian, Western Mercury, Glasgow Weekly Citizen, Catholic Times, &c.*

Communications, Letters, &c., have been received from—

A.—Association of Certificated Dispensers, Lond., Hon. Secretary of; Argylls, Ltd., Lond.; Dr. N. H. Alcock, Lond.

B.—Mr. Harold Barwell, Lond.; Dr. F. G. Bushnell, Brighton; Dr. F. A. Bainbridge, Lond.; Birmingham General Hospital, House Governor of; *British Dental Journal*, Lond., Editor of; Mr. E. Baker, Birmingham; Dr. R. W. S. Barraclough, Bournemouth; Mr. C. Birchall, Liverpool; Mr. E. W. Blasius, Lond.; British Oxygen Co., Lond., Secretary of; Bayer Co., Lond.; Dr. C. Ballabene, Berlin; Messrs. Boulton and Paul, Norwich; *Bury Times*, Manager of; The Borough of St. Marylebone Health Society, Lond., Hon. Secretary of; British Association for the Advancement of Science, Lond., Assistant Secretary of; Mr. W. G. Burcombe, Lincoln.

C.—Dr. Maurice Craig, Lond.; Dr. J. Cropper, Chepstow; Croydon, Medical Officer of Health of; Mr. Arthur R. Chorley, Leeds; Mr. Cuthbert E. A. Clayton, Manchester; Dr. R. Caton, Liverpool; Mr. J. T. Critchell, Lond.; Mr. Thomas R. D. Carruthers, Edinburgh; Messrs. J. and A. Churchill, Lond.; Canadian Department of Agriculture, Ottawa, Veterinary Director of; Messrs. Cassell and Co., Lond.; Canterbury Borough Asylum, Medical Superintendent of; Mr. F. W. Clarke, Chorlton-cum-Hardy; Messrs. W. Clark and Son, Dunfermline; Carlisle Corporation, Clerk to the; Messrs. Clarke, Son, and Platt, Lond.; C. K. F.; Messrs. Corbyn, Stacey, and Co., Lond.

D.—Mr. F. Diemer, Lond.; Messrs. W. Duff and Co., Lond.; Mr. T. Dixon, Lond.; Mr. E. Darke, Lond.; Mr. J. Dunlop, Lond.; Devon County Asylum, Exminster, Clerk to the; Mr. Loudon M. Douglas, Edinburgh; Dr. J. Gray Duncanson, Lond.; Messrs. Down Bros., Lond.; Mr. W. Douglas, Goudhurst.

E.—Mr. W. Edmunds, Lond.; Electromobile Co., Lond.; East Sussex Hospital, Hellingley, Clerk to the; Eccles and Patricroft Hospital, Secretary of; Messrs. Elliott and Fry, Lond.; Dr. E. A. Eider, Blackburn.

F.—Mr. A. C. D. Firth, Lond.; Messrs. J. S. Fry and Sons, Bristol; F. E. S.; Dr. G. W. H. French, Lond.

G.—Dr. George F. Grant, Lond.; Great Northern Railway Co., Lond., Chief Passenger Agent of; Dr. A. H. Garvin, Ray Brook, U.S.A.; Dr. M. H. Gillies, Teeswater, Canada; Dr. G. A. Gibson, Edinburgh; Mr. C. H. Garland, Lond.

H.—Rev. S. H. Harvard-Watts, Hurstpierpoint; H. G.; H. S.; Dr Beatson Hird, Birmingham; Hunterian Society, Lond., Hon Secretary of; Dr. P. Tetens Hald, Copenhagen; Mr. Frederick J. Hanbury, Lond.; Hampstead General Hospital, Lond., Secretary of; Messrs. Hassenstein and Vogler, Cologne; Mr. J. Hart, Lond., Dr. William J. Howarth, Derby.

I.—Messrs. Ingram and Royle, Lond.; India, Under Secretary of State for, Lond.; Incorporated Society of Medical Officers of of Health, Lond., Secretary of.

J.—Mr. Robert Jones, Liverpool; *The Journal of the American Medical Association*, Chicago; Dr. Watkin W. Jones, Worthing; Dr. Robert Jones, Claybury; Mr. H. Emlyn Jones, Lond.

K.—Mr. W. Henry Kesteven, Lond.; King Edward's Hospital Fund for London. Hon. Secretaries of; Dr. John Knott, Dublin; Captain E. Blake Knox, R.A.M.C., Meerut; Kensington, Medical Officer of Health of; Kent County Council, Maidstone, Clerk of.

L.—Mr. H. K. Lewis, Lond.; London and County Motor Co., Lond., Secretary of; Leeds and West Riding Medico-Chirurgical Society, Senior Secretary of; Mr. F. W. Lowndes, Liverpool; Local Government Board, Lond., Medical Officer of; Local Government Board for Scotland, Edinburgh; Leicester Infirmary, Secretary of; London County Council, Education Department, Executive Officer of; Mrs. L. Longfield, Enniskean.

M.—Dr. E. Murphy, Cork; Maltine Manufacturing Co., Lond.; Dr. M.; Mr. R. Mosse, Berlin; Dr. D. R. Mitchell, Pontypridd; Mountan Ash Urban District Council, Director of Education; Mr. W. R. Meyer, Hurstpierpoint; Montgomery County Council, Welshpool, Clerk to the; Messrs. Maple and Co., Lond.; Dr. G. S. Moore, Huddersfield; Messrs. Peter R. McQuie and Son, Liverpool; Dr. R. O. Moon, Lond.; Miss Mapother, Lond.; Metropolitan Convalescent Institution, Governors to the; Messrs. J. Maxwell and Son, Dumfries; Macclesfield General Infirmary, Secretary of; Dr. F. C. Martley, Dublin; Manchester Medical Society, Hon. Secretary of; Mr. P. E. McElligott, Sheffield; Manchester Medical Agency.

N.—Dr. David Nabarro, Lond.; Dr. Lucien Nass, Vincennes; Mr. G. P. Newbolt, Liverpool; Messrs. Newton and Co., Lond.; Mr. John S. Nicholas, Knowle; North London or University College Hospital, Secretary of; Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.; *Newcastle Daily Chronicle*, Manager of.

O.—Dr. James Oliver, Lond.; Dr. F. M. Oliver, Lond.

P.—Dr. C. T. Parsons, Lond.; Mr. H. W. H. Palmer, Haslemere; Physician, Porthleven; Fleet-Surgeon A. M. Page, R.N., Plymouth; Messrs. Peacock and Hadley, Lond.

R.—Mr. Thomas Reeves, Brighton; Messrs. Reitmeyer and Co., Lond.; Royal Microscopical Society, Lond., Secretaries of; Royal Sanitary Institute, Lond., Secretary of; Royal Society of Medicine, Otological Section, Lond., Hon. Secretary of; Royal National Sanatorium for Consumption, Bournemouth, Secretary of; Royal South Hants Hospital, Southampton, Secretary of; Royal Meteorological Society, Lond., Assistant Secretary of; Mr. Richmond Roche, Lond.; Royal Society of Medicine, Lond., Secretary of.

S.—Dr. A. Sharp, Nottingham; Sir James Sawyer, Birmingham; Smeddie Kennedy Motors, Newcastle-on-Tyne, Manager of; Messrs. Spiers and Pond, Lond.; Star Engineering Co., Wolverhampton; Messrs W. H. Smith and Son, Stafford; Dr. William T. Shanahan, Sonyea; Mr. G. Seymour Stritch, Dublin; Dr. Frank C. Shrubsall, Lond.; Messrs. G. Street and Co., Lond.; Stepney Spare Motor Wheel, Llanelly, Manager of; *Selling Magazine*, New York, Advertising Manager of; Sanitas Electrical Co., Lond.; St. George's Nauheim Institute, Lond., Director of; Scholastic, Clerical, &c., Association, Lond.; Dr. Fred. J. Smith, Lond.; Dr. D. Lloyd Smith, Frodsham.

T.—Mr. J. Tweedy, Stockton-on-Tees; Torbay Hospital, Torquay, Secretary of; Dr. A. H. Thomas, Boroughbridge; T. D.; Mr. F. C. Truchses, Philadelphia, U.S.A.; Taunton and Somerset Hospital, Secretary of; Torquay Borough Education Committee, Clerk to the; Miss Mary Flint Taylor, M.B., Lond.

V.—Mr. F. C. W. Vogel, Leipzig; Victoria, Inspector-General of the Insane; Mr. Arthur R. Valzey, Bocking.

W.—Mr. Frank A. Watkins, Lond.; West Kent General Hospital, Maidstone, Secretary of; Dr. R. S. Wainewright, Beckenham; Sir W. Whitla, Belfast; Mr. G. Baillie Weaver, Newport; Worcestershire County Council, Worcester, Director of Education; Messrs. J. Wright and Co., Bristol; *Worthing Gazette*, Manager of; West Bromwich District Hospital, Secretary of; Dr. E. Croft Watts, Farnborough; Mr. Herbert Laws Webb, Lond.

Z.—Mr. Carl Zeiss, Jena.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. A. Anderson, York; Abertillery Urban District Council, Clerk to the; A. B., Lond.; Messrs. Allen and Hanburys, Lond.; A. A.; A. B.; A. D.; Apothecaries' Hall of Ireland, Dublin, Secretary of.

B.—Mr. H. Bennett, Builth Wells; Mr. W. P. Blumer, Sunderland; Messrs. G. Back and Co., Lond.; Mr. P. Benham, Lond.; Messrs. Bates, Hendy, and Co., Lond.; Dr. T. Bromilow, Rushden; Blackburn Corporation, Accountant to the; Dr. W. H. Bishop, Wylam-on-Tyne; Birmingham Corporation, Clerk to the; Mr. S. Bucciarelli, Rome; Dr. A. R. Berrie, Hetton-le-Hole.

C.—Dr. C. S. Crichton, Redhill; Mr. A. W. S. Curties, Burwash; Mr. J. Chronnell, Hindley; C. H. O; Carnarvonshire, &c., Infirmary, Bangor, Treasurer of; Messrs. J. and A. Carter, Lond.; Cardiff Infirmary, Secretary of; Miss E. Cuvellier, Wickham Market; Messrs. A. Constable and Co., Lond.

D.—Mr. H. Davies, Pontypridd; Mr. G. T. de Fraine, Aylesbury; Dr. J. W. Dalgliesh, Sutton; Miss Daniel, Epsom.

E. Miss F. E Turle Evans, Lond.; Eustace Miles Restaurant Co., Lond., Manager of; E. F. H.; E. L., Liverpool; E. L. R.; East Suffolk Hospital, Ipswich, Secretary of; E. K. C.; E. R. I.; Messrs. Evans, Sons, Lescher, and Webb, Liverpool; E. C.; E. W. S.

F. Dr. G. Findlay, Brailes; F. K. T.

G.—Dr. Stanley Gill, Liverpool; Mr. J. Gordon, Fearn; Mr. J. W. Griffin, Birmingham; Mr. G. Gregory, Bath; The Ghyll Retreat, Cockermouth, Medical Superintendent of; G. A. S.

H.—Mr. W. E Harrison, Ipswich; Mr. J. W. Harbinson, Brighton, Australia; H. E. G.; Hastings and St. Leonards Hospital, Secretary of; Dr. G. S. Halton, Newcastle, Staffordshire; Messrs. Hardy and Co., Manchester; Mrs. J. Harvey, Nonington; Mr. P. Harper, Lond.; H. E. L.; H. F. W.; H. S. B J.; H. B.; Mr. F. E. Heubeck, Cwmaman.

I.—Incorporated Institute of Hygiene, Lond., Secretary of; Ingham Infirmary, South Shields, Secretary of.

J. Mr. H. W. James, Avebury; Mr. T. R. Judson, West Derby; J. H. R.; J. W. C. H.; J. S. L.; J. W. E. C.; J. E. R.; J. D.; Mr. F. S. Jackson, Aberdovey; Mr. Y. M. Jones-Humphreys, Cemmaes.

K.—Mr. C. Knowles, Blackburn; Messrs. Knoll and Co., Lond.; Mr. H. E. Kinsella, Chorley; Mr. J. M. King, Willingham; Dr. W. W. Keen, Alger; Messrs. R. A. Knight and Co., Lond.

L.—Mr. A. Leckie, Lond.; L. P.; Lanark County Council, Hamilton, Clerk to the; L. S. P.; L., Old Southgate; Mr. W. W. Linney, West Croydon; Mr. R. T. Lang, Lond.; Mr. L. F. Leslie, Evesham.

M.—Dr. A. W. Mackay, Inverness; Mr. T. K. Mulcahy, Limerick; Dr. J. Merson, Hull; Messrs. Menzies and Co., Edinburgh; Dr. H. C. Maudsley, Melbourne; Mr. A. H. McCandlish, New Ferry; M. R.

N.—North British Advertising Agency, Lond., Secretary of; North Riding Infirmary, Middlesbrough, Secretary of.

P.—Dr. J. W. Pettit, Ottawa, Ill., U.S.A.; Portable Building Co., Lond., Manager of.

R.—Mr. W. Ramsay, Melbourne.

S.—Mr. C. E. Stevenson, Beverley; Mr. G. W. Shackleton, Abergavenny; Mr. C. Stonham, Lond.; Dr. C. Saberton, Blackpool; Stretton House, Church Stretton, Medical Superintendent of; Messrs. Squire and Sons, Lond.; S. H. C.

T.—Mr. A. G. Tribe, Treorchy; Messrs. Toler Bros., Lond.; Mr. R. G. Thompson, Sheffield; Dr. J. R. M. Thomson, Essendon, Victoria; T. C. C.; T. M.; Dr. W. Bezley Thorne, Lond.; Mr. J. Thin, Edinburgh.

V.—Dr. D. Vinrace; Lond.; V. S.; Victoria Central Hospital, Liscard, Secretary of.

W.—Dr. A. J. Whiting, Lond.; Dr. W. N. W. Watson, Birmingham; Mr. H. Wood, Llandebr; Rev. R. J. Williams, Liverpool; Mr. N. C. Whitfeld, Hereford; Dr. R. Stenhouse Williams, Liverpool; Mr. W. F. A. Walker, Dinas Mawddwy; West London Hospital, Secretary of; Mr. H. B. Wilkinson, Blackadon; Worcestershire County Council, Worcester, Clerk to the; Mr. J. Williams, Bradford; W. H. G.

Y.—York Medical Society, Librarian of.

EVERY FRIDAY.

THE LANCET.

PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements and Situations Vacant	Ditto	0 4 6
	Every additional Line	0 0 6

Situations wanted: First 30 words, 2s. 6d.; per additional 8 words, 6d.
Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.